The magazine for AUSTRALIAN radio amateurs

Amateur Radio

Volume 74 No 8
August 2006

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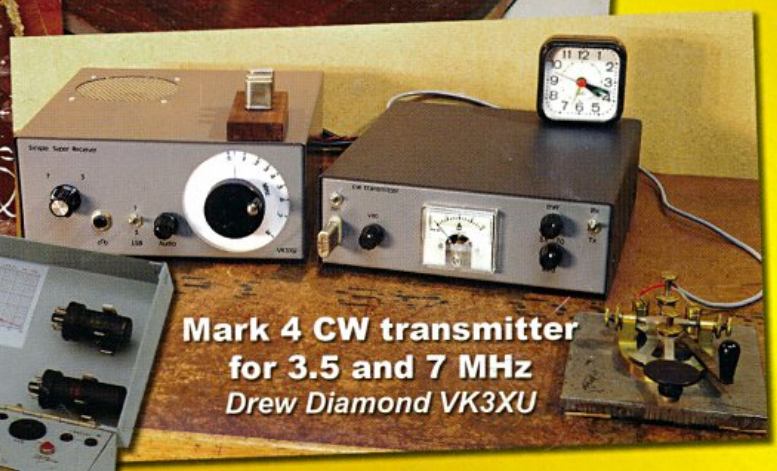
WIRELESS INSTITUTE OF AUSTRALIA

Marconi WWI mulepack spark transmitter

1906 ~ 2006



Mark 4 CW transmitter for 3.5 and 7 MHz

Drew Diamond VK3XU

Build a replica of the Paraset or Type VII set

An early WW2 transceiver of the British Secret Service and used by the SOE

Malcolm R Haskard VK5BA

9 770002 685086 08

MARCONI CENTENARY *Celebration*

The Centenary of the first overseas wireless transmission from the Australian mainland – July 12th 1906

From Point Lonsdale

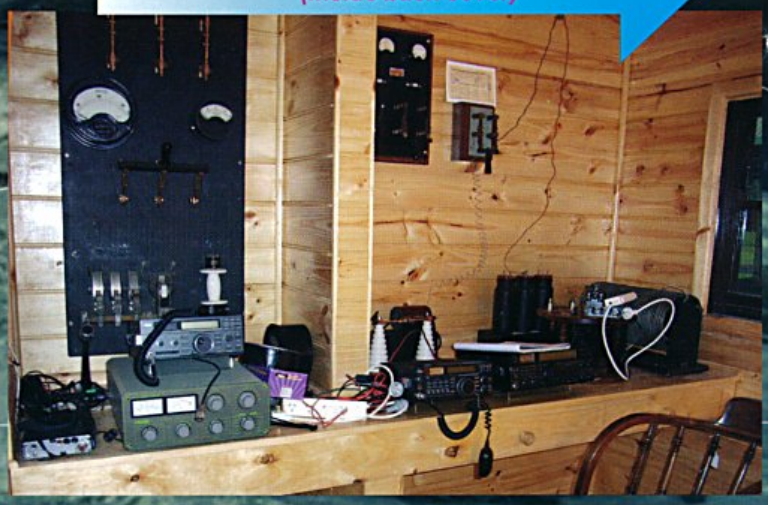
Geelong Amateur Radio Club and the Borough of Queenscliffe hosted celebrations of the centenary of the first overseas wireless transmission from the Australian mainland at Royal Park, Point Lonsdale, with a reenactment of the orignal transmission across Bass Strait .

A highlight of the reenactment occurred when the Victorian Governor, Professor David de Kretser AC handed a copy of the inaugural message to Ken Jewell VK3NW who transmitted the message in Morse to our colleagues in Devonport. Simultaneously the 250 schoolchildren and 150 guests, who filled the marquee to overflowing, were able to read a transcript of the message on a scrolling LED display.

An outstanding feature of the celebration was the positioning of a replica of the original hut, erected by the Marconi Company in1906. The hut, constructed by students of Geelong's Gordon Institute of TAFE, was fitted out with a spark transmitter, tuning coils, Leyden jars, headphones and key, exactly as shown in photographs taken at the time of the original transmission.

(see full report inside)

Across Bass Strait to Devonport
(Inside back cover)



Amateur Radio

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Hamads and advertising material 15th day of previous month

GENERAL

TECHNICAL

COLUMNS

Our Cover this month

100 years have passed since the first radio communication crossing of Bass Strait by the Marconi Company.
Celebrations in Devonport included an impressive cake, replete with replica antenna. An example of a Marconi World War I Spark Gap transmitter was on display in Devonport.

Jump forward to World War II: Malcolm Haskard tells us how to build a replica Paraset transmitter.
Just to show that CW is still very much alive, Drew Diamond describes his Mark 4 CW transmitter. (Photos by VK7RN, VK5BA and VK3XU).

Contributions to Amateur Radio
Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues
Back issues are available directly from the WIA National Office (until stocks are exhausted), at $4.00 each (including postage within Australia) to members.

Photostat copies
When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest National Radio Society
Founded 1910

Representing
The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

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Editorial Comment

Remembrance Day

August brings Remembrance Day activities and the Remembrance Day Contest. The Rules for the Contest were published in the July issue. I encourage you all to participate and to take that extra step of submitting a log. The Contest is primarily between the States, for the award of the trophy. However, your participation is crucial for the success of your state and of the contest itself.

You will see in the WIA News column, that the Board has decided to withdraw the Results from the 2005 RD Contest. Perhaps it was just as well that the results did not make it to press last month!

We have a tradition of providing a small focus on Remembrance Day for the August issue. As a result, we have a small update on the WIA Honour Roll and an article on the construction of a replica World War II Paraset transmitter. While some may question my decision, I have not published the detail drawings of the mechanical construction of the Paraset – these are available on request. Our cover links this construction article back to the Marconi celebrations, to World War I and to the present day, via another excellent project from Drew Diamond.

Marconi centenary celebrations

July saw the centenary of the first transmissions across Bass Strait, from Queenscliff to Devonport. This issue has brief reports, together with great photographs of some of the people involved and equipment, both 100 years ago and for the celebrations. We may have more detail available in the next month or two.

HF Propagation Predictions

I have received many messages about the decision not to publish HF Propagation Predictions, most in support. A few sought the details of the web address to access on-line predictions. The address is published close to the Sunspot Number chart. You will need the Latitude and Longitude for both ends of the communication circuit. The GRAFEX tool seems simple to use:
http://www.ips.gov.au/HF_Systems/7/1/4

I have received one letter indicating reliance on the printed predictions. I can only repeat an earlier suggestion. Explore the services available at your local library. The staff will be able to assist you if required – you will need the web address for the site, plus the location details as noted above.

Remember, the Publications Committee has indicated that we would review the decision after three months – NOW is the time to have your say, either in support or against the decision.

AR content and new licensees

With over 700 Foundation licences now issued by the ACMA, we need to offer additional assistance to our new colleagues. This may be as simple as providing guidance when required on air, acting as a mentor (Elmer) for someone local to you, or being friendly to the newcomer at the local club meeting or on-air.

The LCD restricts these newcomers to using commercial transmitting equipment, but there is still plenty of room for experimentation with other station equipment, such as antennae, and operating techniques. I invite you all to contribute your thoughts about how to set up a station, give some ideas about the techniques that you find useful in the construction and erection of antennae, in fact, any ideas that may be of assistance to our newly licensed colleagues. Items could be small or a larger article – I can provide comment on drafts if you wish.

AR production & distribution delays

Firstly, I offer my apologies for the absence of the DX column last month. Somehow, I failed to forward the column on to the production house. I have apologied to John Bazley, the column author. In addition, July saw unusual delays in the production process and distribution system. The Publications Committee and the publication house are ironing out the problems and are aiming to return to delivery early in the month.
We are changing the distribution sequence so that members see AR before it appears on the shelves of the local newsagency.

73 Peter VK3KAI

WIA Comment

Michael Owen VK3KI

Membership

As reported in the News section of this AR, the WIA is actively promoting WIA membership to those qualifying for a Certificate of Proficiency. A new brochure has been produced, at this stage only in small numbers so that we may revise it, addressed to people who already know about amateur radio, but not a lot about what the WIA really does for the Amateur Service.

In recent months, it has mainly been the qualification for a Foundation licence that has dominated our assessments, though now we are seeing a new interest in the higher grades, particularly the Standard licence.

Last week 28 people joined the WIA, and 17 people joined the WIA the week before that. Certainly, they were not all Foundation licensees. A number were previous members rejoining, and a number were joining as family members.

Some came from the invitations to become a member sent with our letters forwarding notification of assessment results.

All of that means that we have had to turn our mind to answer the question, what does the WIA do for me?

Answering that question can become a bit tricky. I happen to think what we are doing in participating in the preparation for the International Telecommunications Union World Radiocommunications Conference next year and, hopefully, having as a member of the Australian delegation to WRC07 an amateur nominated by the WIA, our participation in IARU Region 3, our ongoing role of representing the amateur service to ACMA and our general advocacy for the amateur service is what matters most.

But I also know that doesn't wash with some people. They take the position that the WIA would do that anyway, whether or not they are members. They don't see the value in representation; they look for the QSL service, the magazine, the discounts on books and the like to measure the worth of the WIA to them.

What the WIA does is, in fact, many things. It was with some hesitation that we printed in last June's AR my Report to the Open Forum following the formal Annual General Meeting. It took a lot of space, but we printed it because it gave some idea of the diverse activities of the WIA. It demonstrated not only the diverse activities, but also the number of people involved, in everything from awards and contests, to publications, training, assessments, the coordination of clubs, as well as the various aspects of representation and advocacy ranging from the WRC, to standards, to BPL to the general regulation of the amateur service in this country.

But all of that is a hard message to get across to our members, and more so to potential members.

In part that is the nature of our interest. Our interest within amateur radio is often very narrow. Some of us are interested in fox hunting. That is really amateur radio. Some of us are interested in HF DX. That is really amateur radio. Some of us are interested in contests. That is really amateur radio. Some of us are interested in EME. That is really amateur radio.

So some potential members look at what the WIA does in their particular interest area, and judges the worth of the WIA only on what they see in their area of interest.

Most clubs acknowledge that the WIA's approach to clubs is very supportive, with affiliation, support for the training of WIA Assessors, support through special arrangements for the sale of Callbooks and the Foundation Licence Manual, the Club Grants Scheme and general assistance.

The WIA has made it clear that the attraction of new amateurs depends firstly on the licence structure and the qualification means (which it influences, develops and manages) and secondly on the clubs, who provide the social meeting point, the training and the assessments.

If we are not careful, that simple separation of roles could produce competition between the clubs and the WIA for members. The potential amateur is also a potential club member and a potential WIA member. Because the club is the first contact is there a temptation for the club to advance membership to itself first, perhaps to the detriment of the WIA? Of course there is. Simply promoting both together is not easy. It invites the response, yes, I will join the club, but I can't afford both, and so I will leave membership of the WIA to later.

The risk is that membership of a club becomes the alternative to membership of the WIA.

The WIA must look to the clubs for their support in seriously attracting new members. The clubs need to consciously promote membership of the WIA among all their members. Our structure, the product of history, requires that we recognise that the roles of the club and the role of the WIA is synergistic, not competitive.

The WIA must also look to all amateurs for their support in attracting new members.

The WIA has done much in the last two years. Many amateurs have acknowledged that. There is much more that it must do. Any organisation that is purely voluntary will wax and wane with different volunteers, with different skills and different interests and different commitments at different times. Our future security will come from an organisation managed by paid professionals and governed by competent and skilled volunteers.

That will only happen with enough members to fund the skills and experience needed in a structure governed by volunteers, with many activities always dependent on volunteers but with a paid, professional core.

So, I ask you as a member, you as an amateur and you as a club member to look to see how you get another WIA member. Perhaps even join (or rejoin) yourself.

Earlier in this Comment, I referred to the person who takes the position that they don't need to be a WIA member because the WIA would undertake the advocacy role anyway. That person sadly misses the point.

The ability and credibility of the WIA as an advocate for Australian amateurs depends very much on the number of Australian amateurs it is seen to represent, and most people will measure that number by the number of Australian amateurs who are its members.

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WIA News

2005 Remembrance Day Contest Results

The WIA Board very much regrets to announce that it has become necessary to abandon any further attempts to determine the outcome of the 2005 Remembrance Day Contest.

The results already announced are withdrawn and no certificates will be issued for the 2005 Contest.

The then RD Contest Manager did not complete the results and data has been lost.

The new RD Contest Manager, Peter Harding VK4OD, has tried very hard to recover the situation. However, it is now clear that the amount of data lost makes it impossible to reconstruct the contest sufficiently for the Board to have confidence in any results and the fairness of those results.

The Board is acutely conscious of the fact that the RD Contest is the most supported of all the Australian contests and holds a very special position in the eyes of very many amateurs, and so has taken the step that it has with the greatest reluctance.

Changes to this year's contest include ensuring that contest logs submitted electronically will be on a secure site and available to the RD Contest Manager, Peter Harding VK4OD, the National Contests Coordinator Ian Godsil VK3JS and Trevor Quick VK5ATQ, the WIA Director responsible for contests and awards.

The WIA Board offers its sincere apologies to the many who participated in the 2005 Contest and hopes that all amateurs will again support the 2006 Contest.

WIA commences membership drive

On July 8, the WIA commenced sending to candidates passing assessments, a letter of congratulations on becoming a radio amateur and inviting the successful candidate to become a WIA member. Accompanying the letter is a copy of a recent AR magazine, a membership application form and a newly produced full colour leaflet outlining the WIA and the services it provides to members.

All those people who have passed an assessment from mid October 2005 and are over the age of 15 and are not already WIA members have been sent a similar letter. These have been sent to about 500 people.

A copy of the leaflet promoting the WIA can be downloaded from the WIA website.

WIA broadcast callback records set

Check-ins for the National WIA News total 7,681 with 869 reported for July 2.

Over 14,500 is the total of the RF/Podcast MP3/Internet text editions.

The single most popular RF channel is Adelaide's 2 meter broadcast with 423, followed closely by Melbourne's VK3WIA callback channel (402) and Westlakes Amateur Radio Clubs 9:00am session with 381.

State wide, VK4 leads with 1700, VK2 with 1450 then one check-in separates VK5 and VK7 (VK5 with 950 and 949 in VK7).

Podcasts account for 2,300.

Condition on young persons amateur licences removed

Recently ACMA has been imposing an additional condition on amateur licences granted to people under age 16.

That condition required the licensee, while under 16, to only operate amateur equipment under the supervision of a licensed amateur over the age of 16.

The WIA immediately objected to the condition, advancing a number of reasons. The reasons included the fact that the condition was inconsistent with the whole object of the Foundation licence and in direct contradiction of the "Outcomes" paper, where it was said, "it was decided not to introduce an age limit for operating under the Foundation licensing option". It is not a condition of the class licence covering CB equipment and so discriminated against amateur licensees who were trained in the relevant safety aspects.

As more licences were issued with the condition, more people became aware of it and expressed their concern to the WIA.

Alan Jordan of ACMA has now advised the WIA as follows: "I refer to representations from the Wireless Institute of Australia about the imposition of a licence condition requiring the operation of Amateur stations by licensees less than 16 years of age to be supervised by a licensed Amateur over the age of 16.

This requirement has been reviewed and I am pleased to advise that the condition will not be applied from this date. Those licences already subject to that particular condition will be reissued in the near future.

Amateur licences will, on application, be issued to any person who demonstrates at examination that he or she possesses the necessary knowledge and skills."

The WIA welcomes ACMA's decision.

Amateur licence fees reduced

From 1 July 2006 GST is no longer payable on Apparatus Licenses and so the amateur licence issue fee is now $57.00, a reduction of $2.00.

Licences on which the additional amount has been paid will be extended proportionately.

How long before I hear from the WIA after an assessment?

Unfortunately, some candidates have unrealistic expectations about how long it can take before they should get their "new" licence. The WIA has been working very hard to ensure a fast turnaround, and indeed we think that one reason why some candidates expect a very fast response is because they have heard of some people getting their results in a week or so.

If you have asked the WIA Exam service to process your application for a Certificate of Proficiency and to lodge your application for a licence or a variation of an existing licence, and the correct fees have been forwarded, then you should get a letter from the WIA telling you that your results and the applications have been sent to ACMA on a particular date.

Continues page 5

The Centenary of Australia's first overseas wireless transmission

Transmission of communications by radio waves is so integral to our lives now that we don't give it a thought. We even unlock our cars and open the garage door using them. In some cases we send emails from one room to the next by bouncing the carrier signal off a satellite hundreds of kilometres above us. But only about 100 years ago, the first overseas transmission of information by radio from Australia took place with messages to Tasmania,and it was revolutionary.

The Mainland connection

Barry Abley VK3SY

More than a year of planning culminated at Royal Park, Point Lonsdale, with the celebration of the centenary of the first overseas wireless transmission from the Australian mainland, on Wednesday July 12, 2006.

In association with the Borough of Queenscliffe and in the presence of the Victorian Governor, Professor David de Kretser AC and other luminaries, the Geelong Amateur Radio Club facilitated a reenactment of the original transmission, albeit on the 40 metre Amateur Band.

Under the leadership of Cal Lee VK3ZPK, a program evolved which incorporated elements of both the original Marconi Company transmissions and modern technology. A highlight of the reenactment occurred when the Governor handed a copy of the inaugural message to Ken Jewell VK3NW who transmitted the message in Morse to Devonport. Simultaneously the 250 schoolchildren and 150 guests, who packed the Marquee , were able to read a transcript of the message on a scrolling LED display.

An outstanding feature of the celebration was the positioning of a replica of the original hut, erected by the Marconi Company in 1906. The hut, constructed by students of Geelong's Gordon Institute of TAFE, was fitted out with a spark transmitter, tuning coils, Leyden jars, headphones and key, exactly as shown in photographs taken at the time of the original transmission. Members of the Geelong Amateur Radio Club and the Geelong Radio and Electronics Society spent many months acquiring and refurbishing ancient transmitting and receiving equipment to grace the replica hut. The hut, together with additional artifacts from Amateurs and Museum Victoria, some of which have never been displayed, will be exhibited at the Queenscliff Maritime Museum until September this year.

The 'Shack" at the Queenscliff end. (A replica, built by Gordon Institute students, of the original.)

In addition to period radio gear, members of the Western District Historical Car Club displayed vehicles which dated back to the period of the celebration.

Members of the Geelong Amateur Radio Club operated the station on HF and 2 metres for six days during the celebration, receiving approximately 800 contacts to VI3MC, the special event callsign. A commemorative QSL card has been designed and will be forwarded to all who worked either VI3MC or VI7MC.

In addition to local interest, reciprocal greetings were exchanged with Dr Jim Barnett, Director of the Museum of the History of Science at Oxford University, who has acquired and is currently exhibiting many of Guglielmo Marconi's early items of experimental equipment.

The Tasmanian connection continues overleaf and several pictures from each site appear on the inside front and inside back covers of the magazine.

from page 4

Assessment timing

If you haven't asked the WIA to do that, then you will get a letter from the WIA forwarding the official notification of your results, and telling you that when you have all the official results you need, you should apply for a Certificate of Proficiency and a licence or variation of a licence, from ACMA.

How long should you wait before chasing the results from the WIA?

Please allow 3 weeks before chasing the WIA to ask why you haven't heard! If you haven't heard by then, please contact the office, preferably by email, to nationaloffice@wia.org.au.

If you have asked the WIA to send your results direct to ACMA the you can expect it will take between one and two weeks for ACMA to issue your licence from the time you receive a letter from the WIA saying that they have been sent to ACMA. If you include an e-mail address on your licence application, ACMA will let you know by e-mail when your licence has been issued.

If you haven't heard from ACMA 3 weeks after sending the forms to them, or after you have a letter from us saying we have sent them to ACMA, contact ACMA by email to nlec@acma.gov.au or by phone to 1300 805 115.

The Tasmanian Connection

Ron Churcher VK7RN

What a day it was! July 12th 2006, 100 years to the day since Marconi's wireless conquered Bass Strait and made the first wireless crossing of open water in the Southern Hemisphere and we celebrated with our Geelong friends a wonderful century of electronic progress.

The day started with the writer up at 4.20 am in order to open the Devonport Maritime Museum for the ABC morning presenters, who did a fantastic job featuring amateur radio and the Marconi celebrations from 5.30 am to 7.45 am.

Preparing the large exhibition hall at the Museum was the next job and we managed to get about 90 chairs in between our exhibits for the invited guests. We expected we may have a few problems with 7 Megahertz HF propagation but the backup IRLP nodes gave us MORE. At 12 noon, 7 Megahertz was open to NSW, Queensland and WA, but short skip to Vic. - NO! ..... PANIC. Saved – at 12.45 pm, 5/9 to Queenscliff.

Our State Governor, His Excellency the Hon. William Cox arrived and we awaited the call from Victoria starting the exchange of messages. Both Governors spoke, then the parliamentarians present talked to each other, Victoria sending greetings to their little neighbour and Tasmania responding reminding them that Tasmanians founded Melbourne.

In a chat with Peter Turrell, the chairman of the Marconi Veterans Association in Chelmford, England, he mentioned that Princess Elettra Marconi, the daughter of Guglielmo Marconi, was in England for the Ascot Races.

A phone call to Italy and we had a scoop! A 3-minute message in which she intimated that if she had known she would have come out to be with us. We had not known that she was still alive!

A reception by the Devonport City Council followed: we cleared the chairs and the guests were able to view our array of ancient and new radio equipment.

We hope to be able to give you a more specific report in next month's AR but let me offer all readers a reprint of Marconi's 1906 brochure – 24 pages of fascinating reading – only $6.00 AUS posted. Apply to Marconi Centenary, 177 Best St., Devonport, 7310

Attached is the text of Princess Elettra's recording – sorry – without her lovely Italian accent.

The celebration of this milestone in wireless telegraphy in Australia has brought to the attention of the public, through extensive media coverage, the dynamic world of Amateur Radio and the challenges and excitement that radio communications still offers, one hundred years after those first tentative steps in wireless telegraphy.

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The 'Shack' at the Devonport end

La Principessa Elettra Marconi

I am Elettra Marconi, Guglielmo Marconi's daughter. It is a great pleasure to speak with you on the centenary of my father's first wireless transmission between Devonport, Tasmania and Queenscliff, Victoria.

I am very happy to know that the Governor of Tasmania is present and also the Governor of Victoria and I am very thankful and grateful. I would have been very pleased to have been with you in this great event and also speaking about my father.

My dear father, Guglielmo Marconi is always near me, always in my heart. I was a little girl when I lost him in 1939 but I have great memories. So I would like to be with you and remember him with you.

He loved Australia and his great wish was to visit. I have been to Australia many times in my life and also to the lovely island of Tasmania. I went with my mother Maria Christina Marconi on the liner Guglielmo Marconi on its maiden voyage in 1963. I have many friends in Victoria and I am sure I also have many in Tasmania.

I am wishing you all the best for this wonderful occasion, I am very moved and very excited and I would wish to be near you with all my heart. God bless you all.

A tuner for the 160 vertical

Mick Hort VK2BZE

The helical vertical, as described in last month's issue of *Amateur Radio* magazine, is still performing well, but suffers from a lack of bandwidth. As is to be expected, the bandwidth is about 10 kHz at best.

Many attempts to tune it in a fashion suitable for remote tuning failed dismally, requiring both capacitive and inductive tuning. Extending the whip up and down seemed to be the way forward but posed problems of connectivity, especially running 400 watts or so.

I tried making flexible copper wire coils inside the main tube and pulling them up and down, but this was very poor and made spacing against flashover difficult. Also, it was mechanically near impossible to achieve.

While pondering all this I glanced at my new air compressor and instantly saw the small coiled plastic air hose as the answer. The hose is highly flexible, and protects and prevents the turns rubbing together.

Next, a small ball of string carrying a draw-string was blown through the tube with compressed air . This required stretching the hose out fairly long, and then four strands of about 0.5 mm ECW were drawn through the tube with the string.

A suitable brass nut was threaded on to the tube far enough to allow for the thickness of the plastic pipe and another nut. This end, and the wire, was passed through a neat fit hole just above the last turn of the helical winding, and another brass nut went over the wire and screwed on to the tube to clamp it in place. The wire was soldered to the helix, allowing some extra for flexing.

This may need the winding closed in, or an extension fitted to your pipe, to allow about 600 mm of lift on your flexible coil. The top half a turn or so of the tubing is fastened to the bottom of a 1.2 kg dog food can (take out the dog food first), just following the curve of the base with three cable ties and the ECW soldered to the bottom of the can. Make sure the can you use can be soldered as some newer coatings won't solder.

My support for the whip is a 25 mm thick piece of bakelite cut round for a neat, tight fit in the open top of the can. The lid from the can should be hammered flat to spread it and make it a better fit for soldering back on to the can later.

A stud or bolt is put through the centre of the bakelite (use whatever suits your whip material here), and the lid you flattened out, and the two are screwed tight with a nut. The bakelite is fitted into the open top of the can and the lid soldered all round back on to the can. A small hook is screwed into the lid to connect the lifting string.

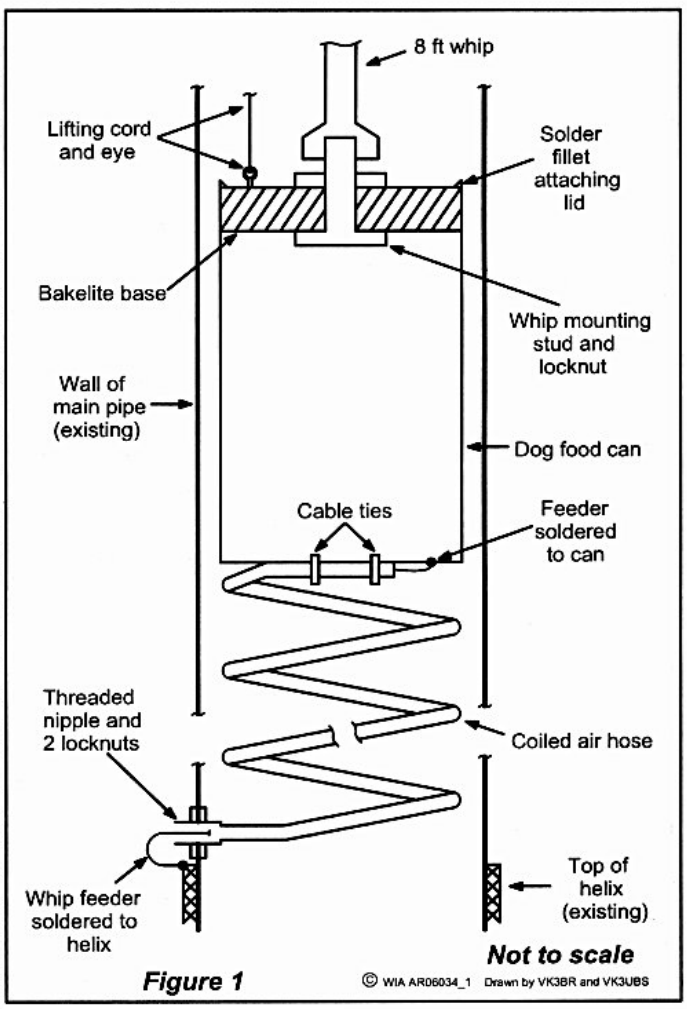
This completes the whip carrier that will be lifted up and down to stretch the air hose and tune the antenna. Attach your whip (about eight feet long) to the can and insert it into your antenna main pipe making sure it slides up and down nicely. Put a stop screw in the top to prevent the can pulling out and jamming.

To lift it up and down I used a 100 mm right angle bend, with sockets both ends, which is cut in half across the middle of the bend. This gives two pieces you can use if you break one, or you can give one to a friend for his antenna. You need to fit a roller into the top edge of the bend to run your lifting string over. It must be off centre so the roller does not foul the whip.

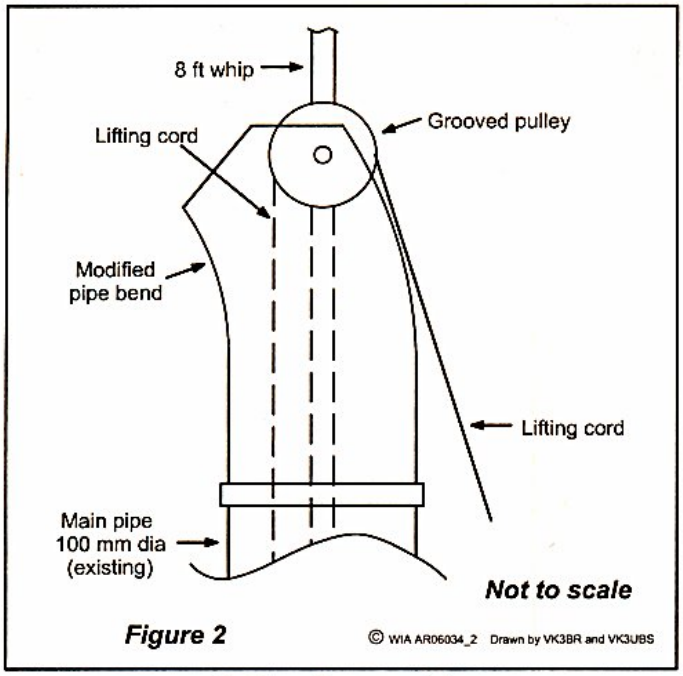
I cut a slot in the bend wide enough to take the width of the roller, then drilled a hole either side of the bend to take a shaft for the roller to turn on. My roller was a sliding door roller but any roller with a nice deep groove will do. I made a cover for the roller to prevent the string coming off, but it is not needed once it is all set up. Put a string on the hook in the top of the can, pass over the roller and you are ready for testing.

The helical should be tuned to about 1900 to 1950 kHz to start, with the coil in its lowest position. When you pull it up it will tune down to under 1800 kHz, depending on the amount of lift, but you will have no problem getting an SWR dip over the entire band. It also appears to have very little effect on the matching, which was a big problem trying to tune at the bottom of the antenna.

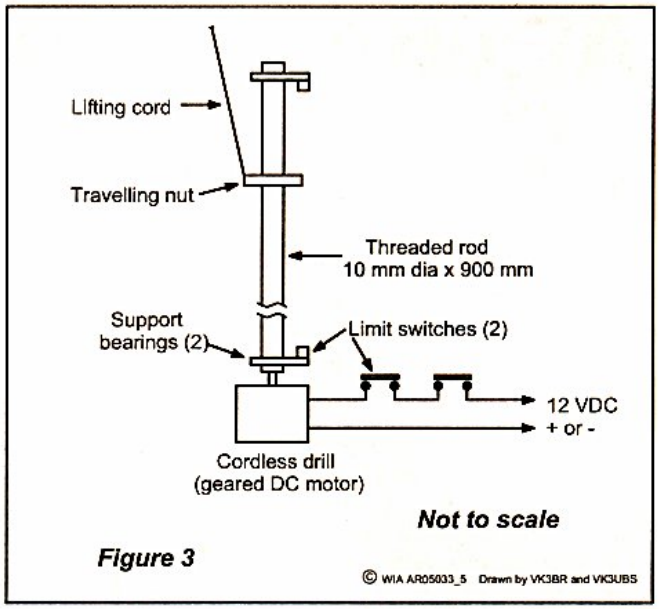
The string can be pulled manually or with a winder. Mine is pulled by a follower on a 10 mm diameter, 900 mm long screw thread wound by a 12 volt cordless drill



Whip traverse and feed assembly.
Note that the coiled air hose has 4 lengths of enamelled copper wire running in parallel inside the tube - see text for details (Ed.).



Guide pulley assembly.



Motorised lift control.
Note that the support bearings and limit switches are located at the top and bottom of the assembly, whilst only labelled at the bottom of the drawing (Ed.).

which runs through up/down buttons fed from my shack 12 volt supply. It has limit switches to prevent damage.

Set the frequency you want on AM or FM, apply a small amount of power, and pull the string to get the lowest SWR. You can get into the 'ball park' by tuning on receive noise - a good noise peak is noted near resonance.

Another good puller may be an electric antenna winder from a car radio. These have about the right travel, speed, and in-built limits. I will test one as soon as I find a broken one.

With this add-on to your 160 metre vertical, you can cover the whole band with ease using easy to get non-critical, and cheap, parts. **ar**

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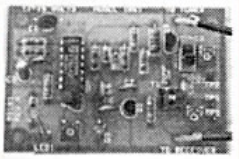
Put more satisfaction into your radio hobby, build some gear for yourself

Some of the 'Build yourself kits' we offer

TT 1001 DC to 1 GHz RF Preamp

An easily assembled wide band RF preamp. Up to 18.5 dB gain at 100 MHz, typical gain at 500 MHz is 17 dB. Supply voltage 8 to 14 V DC.

TT 1051 Transmatch Tuning Bridge



Just connect this kit between the receiver and antenna tuner, adjust the tuner for a null on the receiver's frequency. Full instructions included.

TT 1054 4 Band Re-Gen SWL Receiver

Easy to build kit covering the 49 meter SWL band, 40 meter ham band, 31 meter SWL band plus 12 to 15 MHz. Includes screen printed front panel.

TT 1056 Single Band Direct Conversion Receiver

This kit is based on the popular NE612 mixer/ oscillator IC. The kit is supplied with tuning components that allows the receiver to be built on any of the HF ham bands from 160 through 10 meters.

TT 1253 9 Band Re-Gen Receiver

This kit is a good performer featuring push button band selection. Covers 1.8 to 22 MHz.

TT 1254 Double Conversion Receiver Kit

A kit for the intermediate constructor! This kit is a high performance multi-mode HF receiver covering 100 kHz to 30 MHz. Supplied with a professional grade enclosure.

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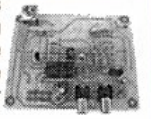
Add 2 meters to your HF transceiver. RF out 10W input 4 to 20W, solid state TR switch. Supplied with a professional grade enclosure.

TT 13XX QRP CW HF Transceivers

These kits are single band CW HF transceivers with an RF power around 3 watts. Available in the 80, 40, 30, 20 and 15 meter bands. When ordering the 'XX' in the part number is replaced by the band - ie model TT 1380 is an 80 meter kit.

TT 1064 Smart Squelch



A clever device that connects between a receiver and external speaker. I works on the principle of integrating audio (not noise) over time and closing a relay when the threshold reached. Ideal for detecting weak band openings.

TT 1550 Utility Audio Amplifier

An ideal kit where you need an effective and low cost audio amp. 1.5 Watts with a supply voltage of 13.8 V DC. Uses the same technology as many of Ten Tec rigs.

TT 1203 RF 50 Ohm Dummy Load

A low cost dummy load for HF and up to the 2 meter band. Easy to assemble and capable of absorbing 300W.

Who can build a kit?

Essentially anyone. Basic soldering, use of hand tools, the ability to recognize components and follow instructions are important. Several of the kits are assembled in phases with progress tests on each phase before proceeding to the next.

No complex test equipment is needed for these kits, generally a multimeter is all that's required. Check our web site for more kits.

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A dummy load for the new amateur radio practical test

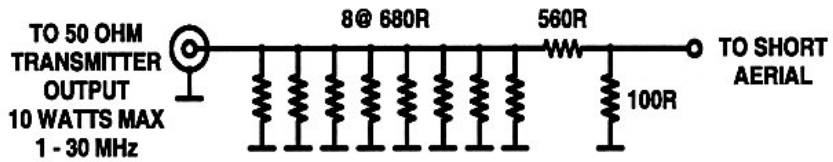
Jim Tregellas VK5JST

During the practical examination for all of the new amateur radio licence categories (but particularly the Foundation licence), the trainee is asked to demonstrate the mastery of various skills to the assessor.

Amongst the most important of these skills are the measurement of system SWR, adjustment of the power output to a specified level for various transmitter modes of operation, correct setting of microphone gain and, finally, correct "on-air" calling and QSY procedures.

All of the above is greatly assisted if a dummy load is available which has a known SWR (other than 1:1 where no reflected power can be measured) and to which a short length of wire can be attached so that practice QSOs can be conducted reliably with another HF transceiver a short distance away without causing significant interference to others.

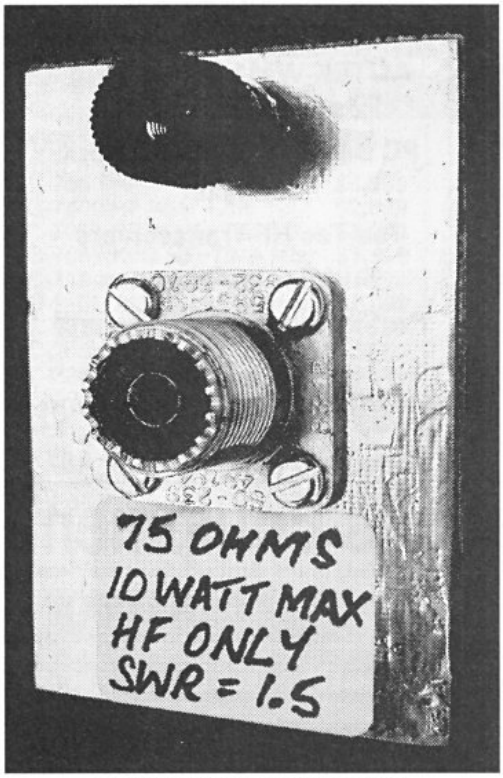
The photos and circuit detail a very simply constructed dummy load made from printed circuit board scraps. It will dissipate 10 - 15 watts RMS for short overs, and has an SWR of 1:1.5 (in a 50 ohm system) over the 1.6 - 30 MHz range. The selection of a 75 ohm impedance for the load means there is enough reflected power to be reliably displayed on an SWR meter, and gives the student firm assurance that he/she is making the SWR measurement correctly. It also means that the transistor output stages of most transmitters are not placed into self protection mode. Attaching a three metre length of aerial does not change the SWR significantly either. **ar**



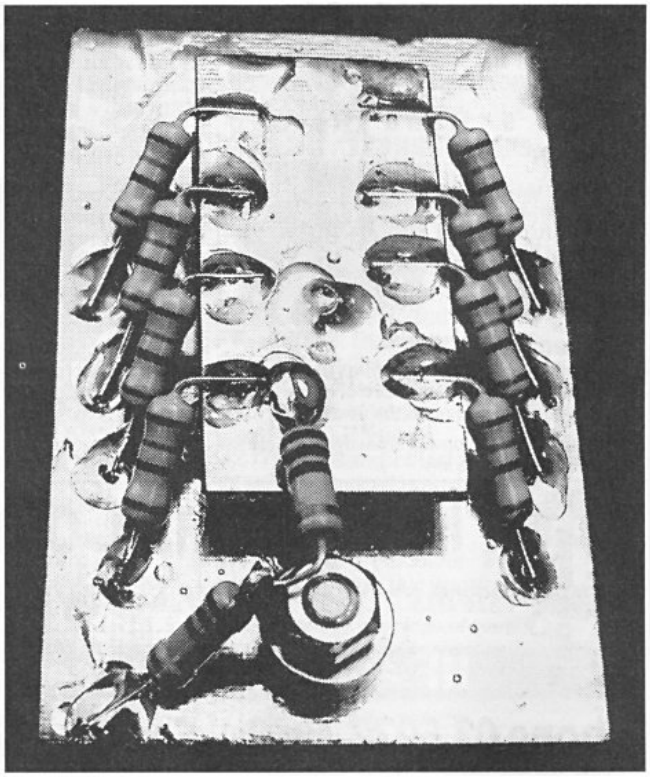
ALL RESISTORS ARE 1 WATT METAL FILM.
LEAD LENGTH SHOULD BE NEAR ZERO.

DUMMY LOAD CIRCUIT

DRAWN J.S.T 2006



The front of the dummy load.



The rear of the dummy load.

Build a replica of the Paraset or Type VII set

An early WW2 transceiver of the British Secret Service and used by the SOE.

Malcolm R Haskard* (VK5BA)

1. Introduction

In the mid 1990s I discovered a book by Pierre Lorain [1] on clandestine equipment used during WW II.

Amongst the collection of transceiver sets, was a simple compact set called the Paraset and from the drawings and circuit outline given it looked possible to reverse engineer and build one.

Although work commenced then, time was needed to collect the necessary components from that era and thus the set was only completed late 2004.

In this article sufficient details are supplied so that other working replicas can be constructed. The completed replica is shown in Figure 1.

2. History

The Type VII set was developed by the Special Communications Group of MI6 at the outset of the war [2, 3] and was used by various clandestine operations including the SOE (Special Operations Executive) in Europe. It was even used by agents at the time of the Normandy landing.

The set, housed in a steel case, has a two valve regenerative receiver covering in one band the frequencies 3 to 8 MHz. The single valve crystal controlled 4 watt transmitter covers a slightly narrower frequency range in two bands, 3.2 to 7.6 MHz. Consequently the set will operate on both the 80 metre and 40 metre amateur bands.

It is easy to tune having a tank circuit and aerial circuit capacitor that are adjusted for maximum brightness of two lamps. The power supply is a separate unit, supplying 6.3 V at 1.1 A for filaments and a high tension of typically 250 V at 50 mA.

While several versions of the set were produced during WW II, the Paraset described here is based on the material given in reference [1].

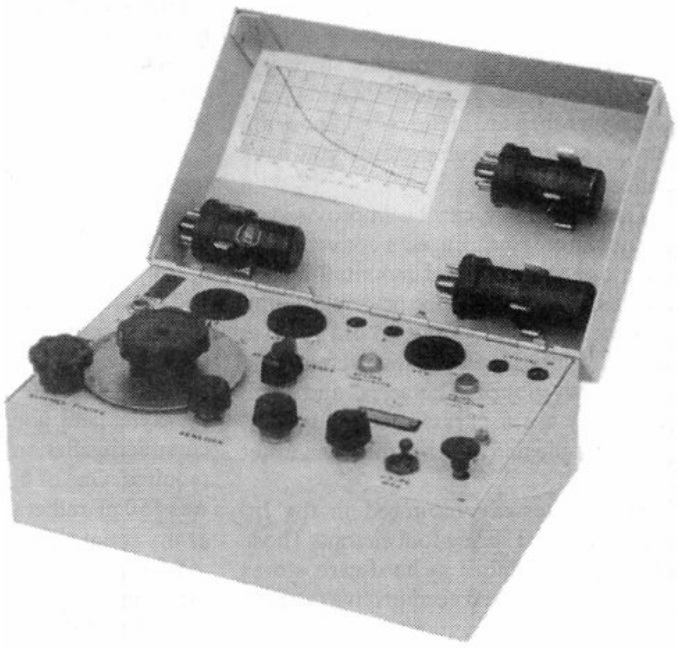


Figure 1. The Type VII or Paraset transceiver replica

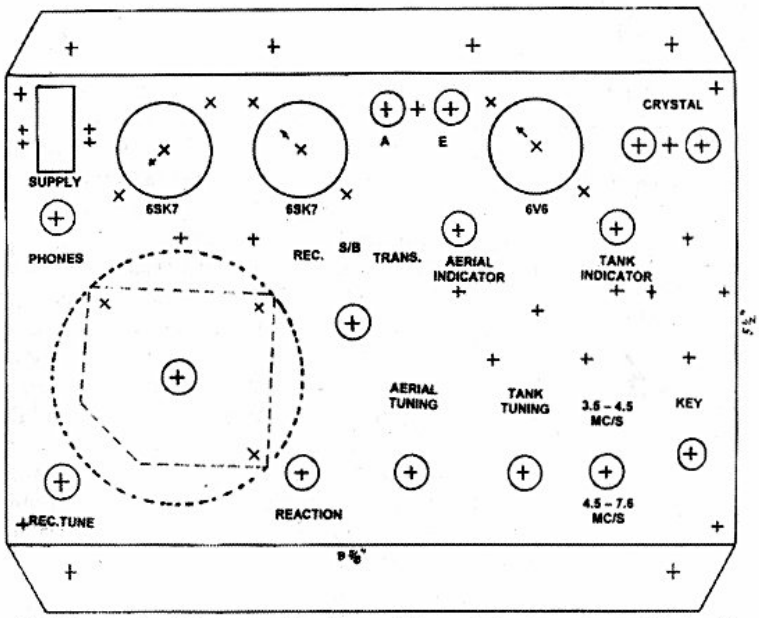


Fig 3 Layout of the operating face of the set (not scale, see Note 1)

3. The mechanical construction

Figures 3 and 4 shows the construction (Note 1). The box is made from 18 gauge zinc plated steel sheet, folded and spot welded.

A 7½" long piano hinge across the back allows the lid to open and close. Note the recess for the hinge and the holes drilled must match the hinge selected. The lid is slightly larger than the box so when closed it overhangs the box.

If access is not available to a spot welder then split or pop rivets can be used, and in the case of the latter filling the central hole with plastic steel so when painted, they look like an old style rivet.

An alternative would be to use a wooden case without a hinged lid, which is how the early Parasets were packaged. The top panel would also have been made from zinc steel, however I chose to use 16 gauge annealed aluminium, a material much easier to work with in a home workshop.

The panel has a bent right angle portion at both the top and bottom and this gives additional rigidity so when plugging in and removing the valves the panel does not distort or deflect.

These vertical sections also provide the mounting points to the case, via attached flush fitting bushes such as "Nutserts" or "Prestincerts" fixed to the fold down sections of the top panel.

Should spot welding facilities not be available then the piano hinge can be clamped into place by these screws (4?) into the back "nutserts". Before drilling any of the holes (mounting tag strips and coils, power plug, variable capacitors, etc) make sure they are in the correct position for the particular components you have collected.

The Morse key can be improvised in a number of ways. I used a conventional style one, adapted and mounted upside down. Figure 5 shows the principle. Lamp holders were taken from an old B/C set dial, the globes replaced with screw style 2.5V torch globes. The aerial and earth terminals are a crystal socket holder, matching the one used for the transmitter crystal.

The valves are mounted in the lid using modified spring tool clamps. Those currently available in hardware stores may be too long and need to have the ends trimmed back.

4. The circuit

Both transmitter and receive circuits are standard configurations. Most components are non critical (remember in WW II components were 20% tolerance) and in several cases a range of values that can be used is indicated on the circuit diagram.

A problem with capacitors is the DC working voltage is high and 400 V or 600 V ratings are preferred to 250 V. In many cases I employed old mica capacitors and carbon composition resistors (of ½ watt rating) to give the set the appearance of being authentic.

With some capacitor values this was not possible and knowing that many WW II capacitors had a black outer coating I simply painted the more modern components black.

One significant problem was the transmitter toggle switch that switches in the parallel 100 pF capacitor on the lower frequency band.

All of the old style WW II toggle switches I had access to had high contact resistances (switches built for switching high voltages at low currents) and eventually I had to use a more recent variety.

The spacing of the transmitter tank and aerial tuning condensers prevents the use of many B/C set styles and good quality slim ceramic insulation style ones are required. One of the capacitors I acquired was 150 pF rather than 100 and this I used as the aerial tuning capacitor.

With the receiver the power rating of the reaction potentiometer needs to be checked. Allow a 2 mA current flow through it. The series resistor must be selected so that the screen voltage can be varied from zero up to about 65 V.

For the tuning reduction drive I employed a 2" diameter drum and cord, with the tuning knob on a ¼" diameter shaft reduced to 3/16" so the cord would not wander (See Figure 6). A drive reduction of 10:1 is achieved. The bearing for the ¼" shaft and knob was taken from an older style potentiometer.

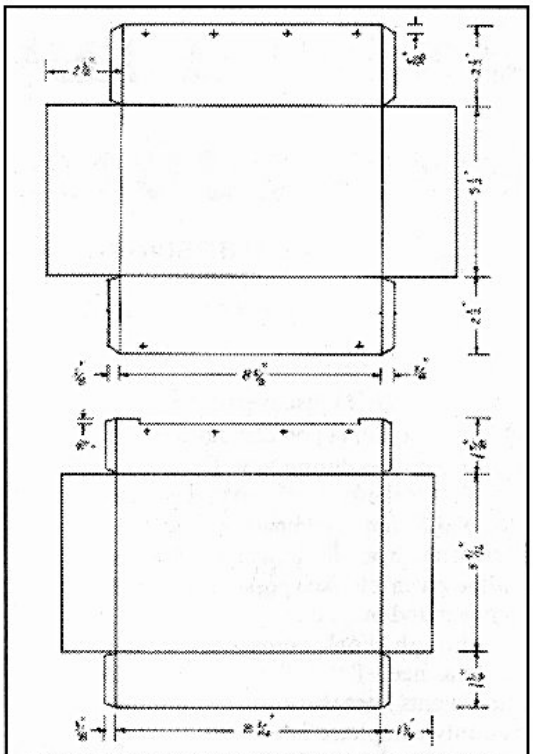


Fig 4. Box construction from 18g zinc plated steel. Holes to suit piano hinge selected

The receiver tuning capacitor is mounted on a separate plate (See dotted outline in Figure 3 and also Figure 6), attached to top panel by bolts and spacers, these being on a radius greater than the 2" drum so there is no interference. Since the tuning capacitor will normally only have a short shaft an extension shaft is needed to take it though the top panel and allow the 3" tuning dial and knob to be added.

The output choke should have an air gap so the standing plate current does not cause saturation. I used a small speaker transformer from a valve B/C receiver. Although I removed the secondary winding, this is not necessary and it can be used so the set can drive modern low impedance headphones.

My choke/transformer was a little too large to mount on the underside of the top panel, between the phone jack and tuning knob and so was mounted with one side fixed to the tuning capacitor plate and the other to the top panel with a stand off spacer (See Figure 7).

The three pin Jones plug and socket for connection to the external power supply was the most difficult component to locate. A 4 pin plug and socket is much more common and can be used.

The two air coil formers, both 1" in diameter and about 2" long were also

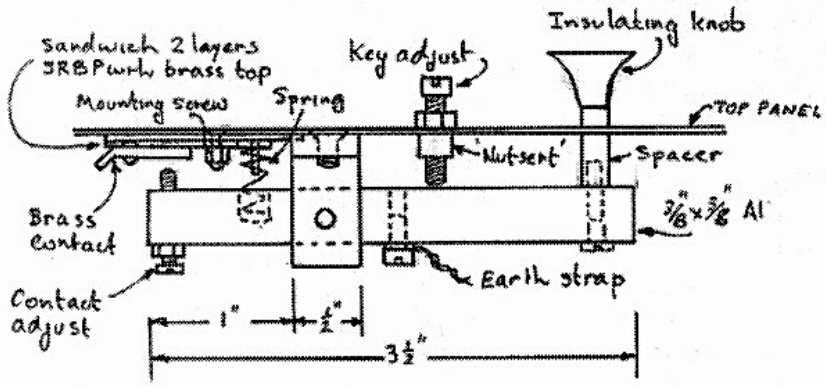
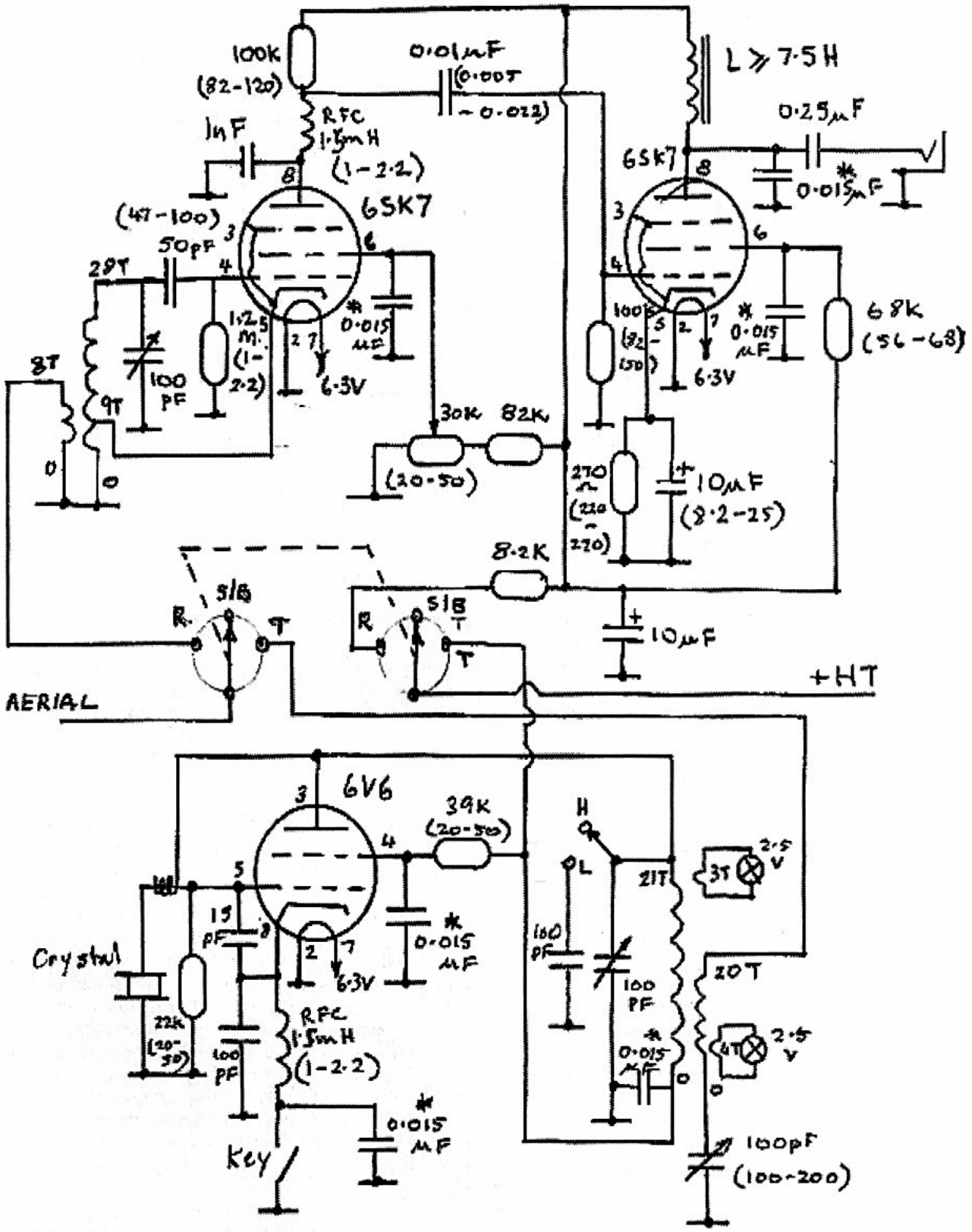


Fig 5 Morse key (not to scale see note 1) Plan view in Fig 7



Circuit schematic of the Paraset

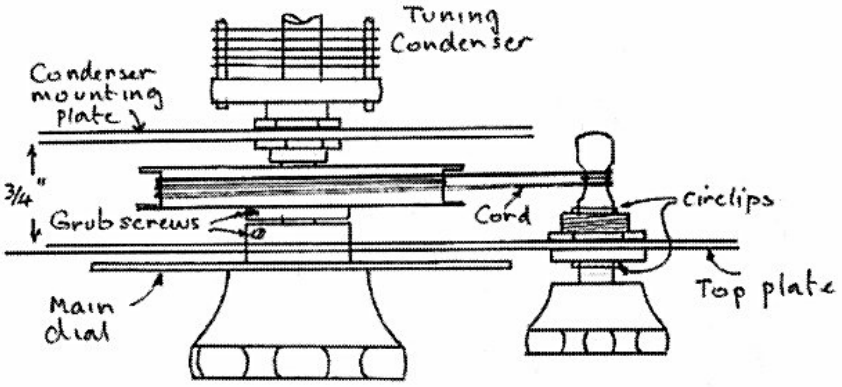


Fig 6 (not scale, see note 1) Drive reduction 2" drum 3/16 shaft giving 10:1 reduction

from a B/C receiver and rewound as shown in Figure 8.

The lugs at the top of the coil were made from wire wrap pins. The receiver and transmitter coils were close wound using 0.5 mm enamelled wire for the receiver and 0.8 mm for the transmitter.

The two lamp windings were wound with 0.25 mm enamelled wire, wound on top of the tank and aerial windings at the respective coil ends (Figure 8.

Figure 9 shows the completed top panel. Note the types of knobs used for the bottom row of controls, including the Morse key. The panel and box were spray painted "Dusk Grey" with the lettering either screen printed in black or painted by hand. If the latter I find it easier to use an old fashioned split nib ink pen than a fine paintbrush. The small brass plate (1 3/16" by 3/8") has Serial No. followed by a four digit number stamped on it. It is mounted using two 8BA screws.

5. Testing

Plug in the transmitter 6V6 valve. Turn the function switch to standby (filament voltage only applied) and ensure the valve heats up.

Next switch the function switch to transmit, applying the high voltage supply (if you can start with a lower voltage value do so) and the HT current should not be more than about 50 mA when the key is depressed.

Insert a crystal and check with a CRO, frequency counter or receiver that the circuit is oscillating when the key is pressed.

Tune the plate circuit and peak the tank indicator lamp (HT current will dip to 15-20mA. Also increase the HT voltage to 250V and the lamp brilliance should increase). If an aerial or load (capacitive) is attached then tune the aerial circuit by peaking the aerial lamp. At the same time the tank circuit lamp will dim as energy is coupled out of the circuit.

Plug in the two 6SK7 valves and check that both warm up when the heater voltage is supplied (Function switch on standby). Turn the regeneration control anticlockwise so on power up there will be zero volts on the screen grid of the regenerative detector valve. Switch to receive, thus applying the HT supply. Faint mains hum should be heard in the earphones. The HT current should be a few mA. Increase the regeneration until a strong hissing noise is heard, being the onset point of regeneration. Any further reaction the receiver breaks into oscillation. Tune across the receiver band and ensure that by adjusting the regeneration control there is always a position where regeneration smoothly occurs. Connect an aerial (or signal generator) and ensure the receiver operates correctly across the whole band. Should there be a drop out point for regeneration then the resistor in series with the regeneration control may need reducing or the cathode tap on the coil be increased beyond 10 turns.

6. Conclusion

The set is simple and works well. It should give hours of satisfaction on air as well as being a set to put on display – a replica of a famous WW II transceiver used by the SOE and MI 6.

7. References

1. Lorain P, *Secret Warfare, The Arms and Techniques of the Resistance*, (First published in French in 1972 and adapted to English by David Kahn), Orbis Publishing, London 1983.

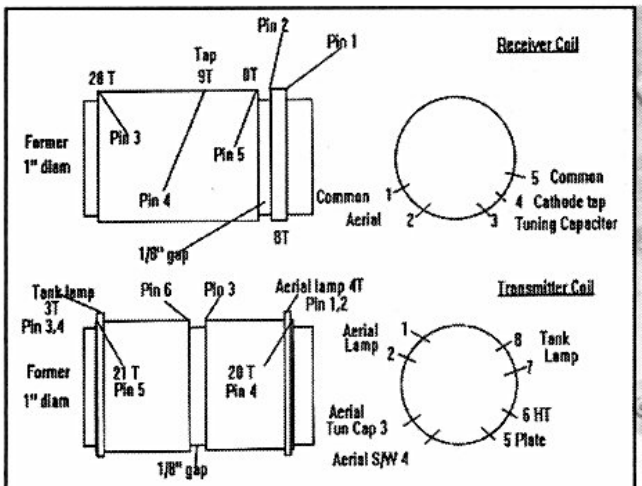


Fig 8 Receiver and transmitter coil winding details, including terminations

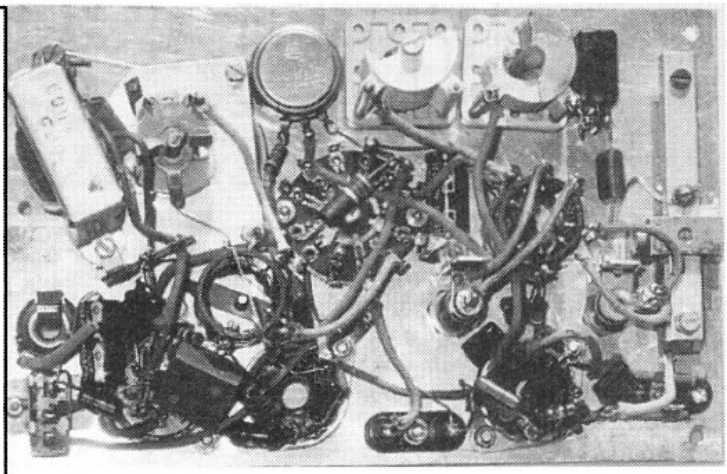


Figure 7. Underside top panel showing component wiring.

Also published in the US as: *Clandestine Operations. The arms and techniques of the Resistance, 1941-1944*, (Adapted by D Kahn) MacMillan Publishing Co, New York, 1983.

2. Ladd J and Melton K, *Clandestine Warfare. Weapons and equipment of the SOE and OSS.* Blanford Press, London, 1988. See Appendix 3, Table of Section 7.
3. Hawker P, *Clandestine radio – the early years, Parts 1 and 2*, "Wireless World" Vol 88 Nos 1552 and 1553 (Jan/Feb 1982)

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Notes:

1. Some mechanical drawings are reduced in size (Figs 3, 4, 5, 6 & 8). A larger copy is available on request from the Editor in hard copy or as an Acrobat (pdf) file. (Ed.)
2. For newer Amateurs unfamiliar with Imperial measure, one inch (1") = 25.4 mm (Ed.).

ar

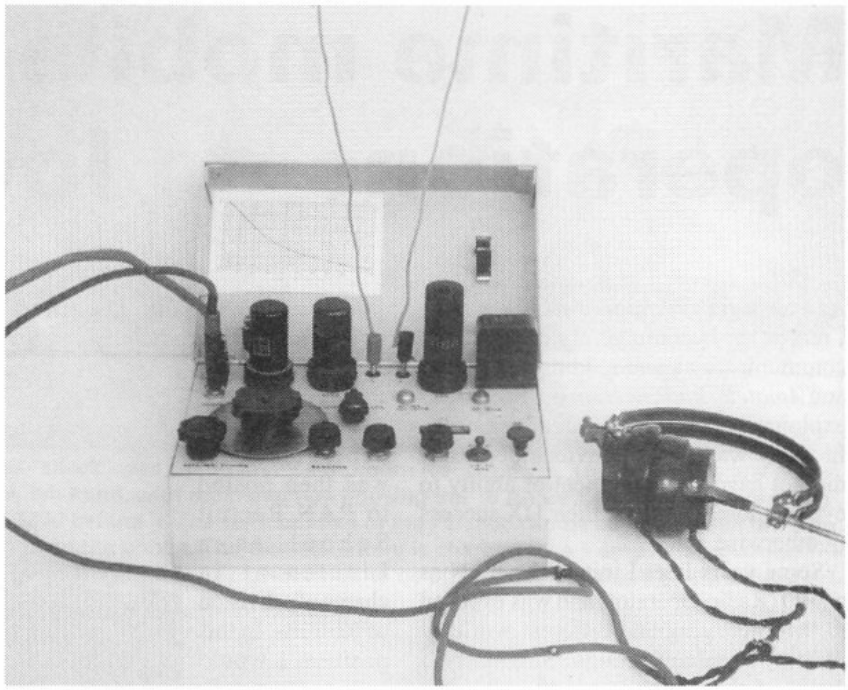


Figure 9. Top panel of the Paraset showing labels and knob styles.

Maritime mobile operations on low power

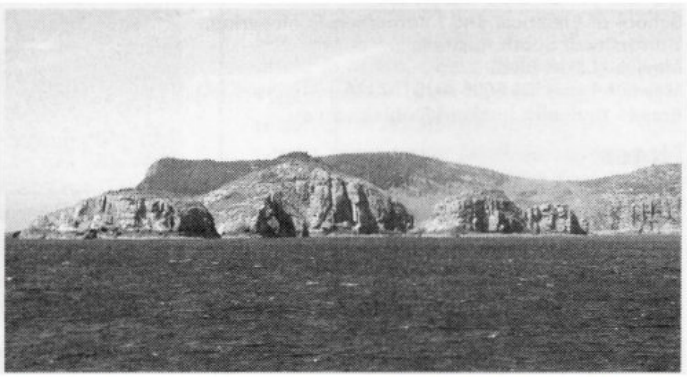
Tony Halter VK3TLA

As a teenager growing up in Queensland, I remember becoming very interested in communications and reading *CB Action* and *Amateur Radio Action* on the various exploits of operators all around the globe. In many ways I was envious because I did not have the equipment or ability to even remotely emulate their DX success or otherwise.

Some years later I joined the RAN as an RO (Radio Operator) and was exposed to the interesting and different world of military communications. Singularly, I learnt at the junior levels there wasn't too much playing with radios - mostly shuffling paper and typing signals. However, much was learnt in the early days of my Navy career.

After some time I gained my Commission and completed my various training regimes and completed different sea deployments. I was then posted to RAN Recruit School as a Lieutenant in charge of a division of Recruits. In this position I would have to frequently go to sea on the *Seahorse Spirit* in a supervisory role.

Being an active ham, I immediately discussed the idea of taking 2 m and 70



The Deal Island Group, a stony outcrop in the middle of Bass Strait, viewed from the west. I worked 160 metres to the US on the same day this photograph was taken. The RF noise on Deal Island is very low on the lower bands.

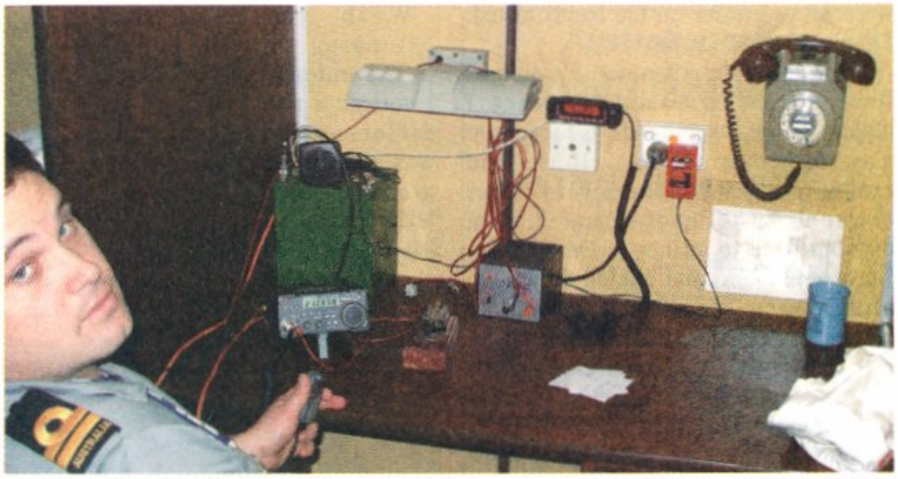
cm to sea with the Master of the vessel. Unlike a commissioned RAN vessel, there are no restrictions of emissions. *Seahorse Spirit* (VKNG) is a merchant vessel operated by Defence Maritime Services. The master indicated that, provided I operated on a strict non-interference basis, there would be no problem. So, it began the very next week.

I initially operated my FT-7800 portable with a GelCell battery in a green metal box with the antenna mounted on the box. This, however, meant that I had to be on the bridge wings or out in the weather to operate the radio. Winter time in Bass Strait is not at all pleasant. So, there had to be a better way. I decided to take a ground independent mobile 2 m and 70 cm antenna to sea. Dave Wilson of TTS Systems at Tyabb kindly provided me with an antenna until the arrival of the Diamond SG7500 Dual Band antenna.

This proved to be very successful; however, I had often, on air and otherwise, discussed how well HF would work at sea. My earlier communications training and experience gave me the impression that I would do very well from sea. But, I did not have a suitable rig to take to sea. And there was a significant issue with what antenna to use. Again, Dave from TTS came to the rescue. He offered me the use of the SGC 2020 20 Watt HF rig and the SG-237 Smartuner.

I initially baulked. However, on further consideration I jumped at the opportunity. I already had the means to power the radio – the Gel Cell and a small power supply for the tuner. We decided that I would take the aluminium tubing from a Station Master Mk II. Initial testing revealed that the Smartuner easily handled the length of tubing on 80 metres. However, when I returned to the ship I quickly discovered that there was very little mounting space for another HF vertical antenna. I decided to go with plan B, a wire antenna. As it turned out this was a very good decision, albeit forced by circumstance.

So, after the installation I could hardly wait to try out the radio. It was at about 1000 hrs local when I fired it up. I called VK3MED, who was situated about 20 km to the south, and we conducted a test. The Smartuner and SG2020 were a formidable team. I selected CW on the radio and, with two short bursts on the key, the antenna was tuned and I was on 80 metres. Dave and I continued to test all of the bands, some of which Dave could only listen on and report back to me on 2 metres. Signals



The "shack" was set up in my stateroom (cabin/office). The SG2020 is just above my left hand, with the metal box housing the 18 Ah GelCell and the body of the FT-7800 behind it. The remote head of the FT-7800 can be seen between the desk lamp and the phone. The GelCell battery is charged by a 1 amp Arlec charger. The efficiency of this charge seemed to be affected by the ship's 60 Hz supply.

The *Seahorse Spirit*.

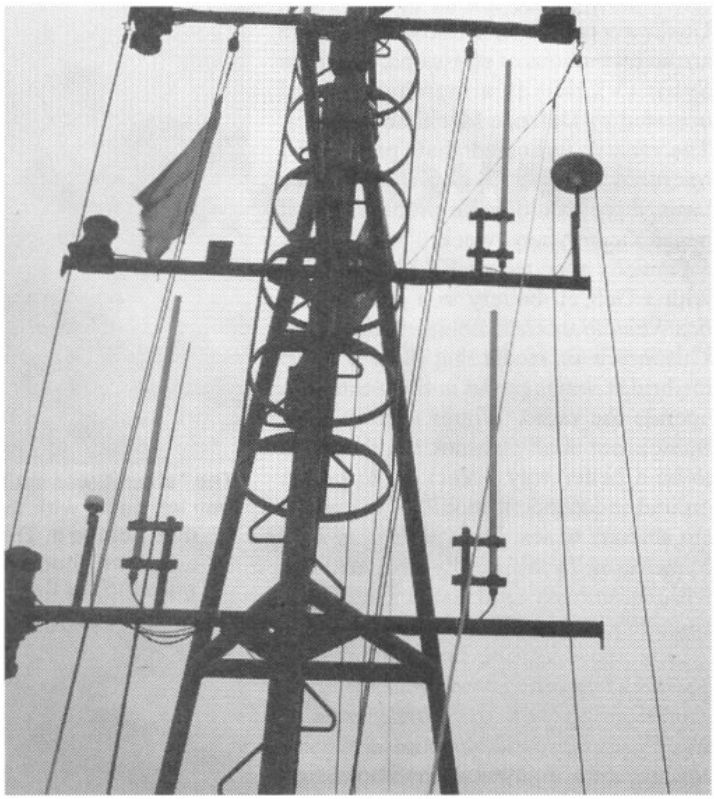
The SG-237 Smartuner on deck.

were S9 or greater on the bands tested. Finally, I had HF at sea.

Throughout the afternoon I managed some contacts on 40 and 20 metres. I noticed on the lower bands that the radio was not performing as well as I had expected. Originally, I had only 14 metres of wire aloft. On Tuesday morning, when the ship went to anchor at Deal Island, I proceeded aloft and altered the length of the antenna, bringing it to about 29 metres. This functioned far better.

At this point I will briefly talk about the safety issues on board ship. When a ship is under way often the RADAR is radiating and rotating. The slotted wave guide antenna visible in the photos can radiate large amount of RF. This is very hazardous, particularly when possibly grounding out antennas, etc when in close proximity to the rotating antennas. For safety reasons I did not access the antenna areas until the RADAR was switched to stand by and not rotating or radiating. This is a very important safety issue, as Masters are often reluctant to isolate RADAR equipment whilst under way. Therefore it is better to wait until the ship is at anchor.

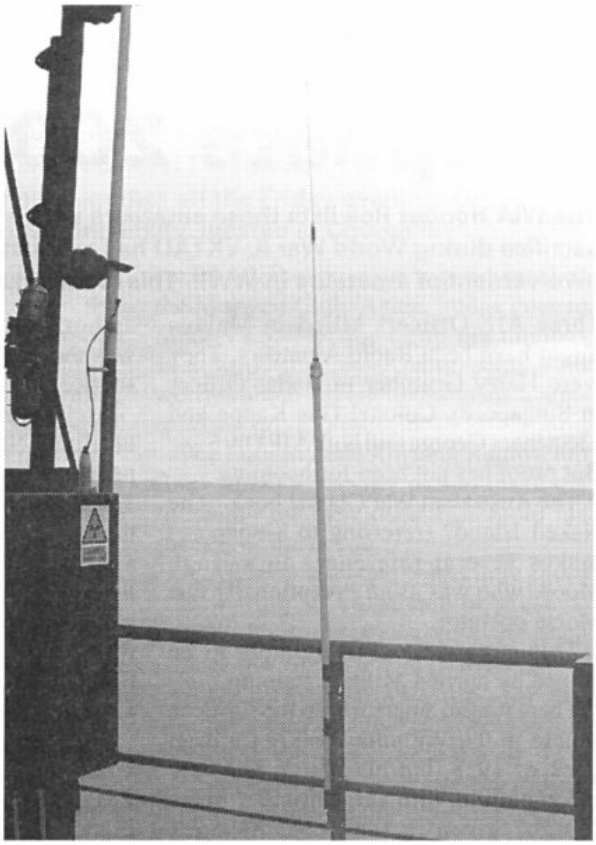
With the extension on to the antenna I noticed a real difference. I was attempting to operate on the VK7 afternoon 80 metre net. On Monday afternoon I could barely make contact. On Tuesday afternoon with the longer antenna I was receiving S9 from most in the net. Also, working back to Melbourne I was having no difficulty. All of this on low power. I decided to try my hand at DXing next and I was pleasantly surprised.



The HF wire antenna passes over the OMNI TV antenna (top right of photo) and back down the other side providing a length of 29 metres.

I felt that, with low power (less than 20 watts ERP), grey line propagation would be my best hope, and this proved to be the case on Tuesday, Wednesday and Thursday nights. I managed to work European stations in Slovenia, Ukraine, Norway and Spain most nights on 20 metres. 40 metres would get me through to the US in the evenings as well as the 80 metre DX window.

Dave from TTS was quite impressed with the sound of the rig when I conversed with him as well. One feature of the rig which can not be understated was the DSP2 software of the SG2020. This feature alone makes it a worthwhile purchase. It turned very ordinary bands with high QRM/QRN in to VHF quality audio. I did notice that this was when the signal strength of the contact was about 3 or 4. It was really good for separating the 'wheat from the chaff' so to speak.



Dual band antenna inserted in to PVC pipe fastened to the guard rail 15 m above the sea. The antenna was fed with RG-214 double shielded cable.

On VHF/UHF I had a high degree of success. On Tuesday morning, approximately 30 miles to the east of Deal Island, I managed to work in to north-west Tasmania on the Mount Read repeater VK7RWC. I estimated the distance somewhere about 320 km. Later the same day, I worked in to VK7RAA. During this contact a number of stations reported that I could be heard on simplex and a simplex contact was briefly established. As was a 70 cm contact on VK7RBH. All of these contacts were on about 20 watts.

The experience reminded me of some valuable lessons. Firstly, on low power you can get through. if you persist. New Foundation licence holders please note: You have access to the bands that WILL give you DX contacts. It is simply a matter of persistence. Operating at sea is very advantageous. The 'maritime mobile' at the end of the call sign does attract interest from DX stations, particularly in a pile up, and the level of ambient RF noise is much lower away from the coast. That is a distinct advantage. The other thing I relearned is that automatic tuners are great. Sure, they are expensive, but a rig with all of the 'wiz bang' gear is nothing without a good antenna. An automatic tuner makes that piece of random wire into a really good antenna.

I had a fun week at sea, and I would like to thank Dave from TTS for providing all the great gear to take, and the assistance to get it on air. Also, thanks to the Master of *Seahorse Spirit* for allowing me to put some antennas temporarily on the ship.

A visit to Deal Island it is well worth the trip. It is very picturesque and would prove an excellent temporary QTH for a DXpedition or light house weekend. There is plenty of room to erect that 160 meter dipole or that tri-band beam. The caretakers are on a three months voluntary basis, accommodation provided, with Tasmania Parks and Wildlife Service.

If you were looking for three months break from society and a serious DX QTH, Deal Island may be of interest to you. There is also extra accommodation which may suit a light house weekend or DXpedition .

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WIA Honour Roll — update 2006

Col Harvey VK1AU

The WIA Honour Roll lists those amateurs who made the supreme sacrifice during World War II. VK1AU has exhaustively researched the involvement of amateurs in WWII. This is the final report.

Three AIF Officers killed in Malaya might have been Radio Amateurs. They were Harry Grumber (a Radar Officer in Singapore), Colonel Gus Kappe and Lieutenant George Gill both AIF Div Sigs. But proof has not been forthcoming.

The Australian War Classic book "The Naked Island" (referring to Singapore) makes several references to a Hugh Moore who was as an exceptionally fast Morse operator.

This suggests a skill unlikely to be gained by hurried Military training.

There was an amateur with the surname Moore in the Wireless Weekly Callsign book of 1938, but his initials E.A. are incompatible with the Christian name "Hugh" given in the book. Moore's callsigns are shown as VK2QH and VK2ABG. There is weak circumstantial evidence that E.A. Moore who lived in Sydney may have been at Sydney University with Russell Braddon, the author of the book which refers to Hugh Moore's operating skill.

Another Australian War Classic Book "The Coast Watchers" gives encyclopaedic coverage of the Coastwatch Service. Its author, Navy Commander Eric Feldt, was the pre-war founder of this unique service.

An Appendix names more than 400 civilian, Navy, Army and Air Force people who operated the Service using Teleradio equipment. Every surname in the appendix has been checked against almost 1800 known pre-war amateur licensees. Only sixteen surname matches were found. Of these, only one was followed by a Christian name match and this (Lieut. D.A. Laws VK4DR) was already known.

Eighteen of these Coastwatchers were killed and 11 listed as missing in action. The team earned 77 decorations, ranging from 21 Mentioned In Despatches, through 8 Military Crosses to 15 Distinguished Service Crosses. But for difficulties in making cross-service commendations, more would have been decorated for their part in protracted, dangerous &difficult operations.

Although it is highly unlikely that so few Amateur operators lost their lives in WW2, Honour Roll listings have reached a dead end. SK **ar**

The Watcher. from "SIGNALS, Story of the Australian Corps of Signals"
Artist L Kelly — Halstead Press 1944

GippsTech 2006 – a quick summary

Peter Freeman VK3KAI

In early July, 101 amateurs and 19 partners converged on the Latrobe Valley, 170 km to the east of Melbourne for the ninth annual Gippsland Technical Conference. This was a record attendance to date. Over 50 gathered for an informal dinner and get-together on the Friday evening. On Saturday morning, all converged on the Gippsland Campus of Monash University, located in Churchill.

The 19 partners departed quickly for a tour of some of the local features – this year there was an historical celebration occurring in the small hamlet of Walhalla, deep in the foothills of the Great Dividing Range. Pauline Corrigan led the ladies' activities, ably assisted by "the Pom" (a.k.a. Mike VK3NMK) as the minibus driver, only just back from a trip to the homeland to visit family.

In Churchill, the amateurs settled in for a packed program. WIA President Michael Owen was kind enough to open proceedings and to talk about some of the topical issues at a national level. A total of 18 further technical presentations filled out the program over the next day and a half, covering a variety of topics from modern vehicle electronics and their interactions with transceivers through to microwave EME communications and optical communication experiments. The conference has a broad theme of weak-signal VHF, UHF and microwave communications.

Saturday evening saw 85 amateurs and partners enjoying a chance for relaxed social interaction over a good meal at the Morwell Club. Again, kudos goes to Mike VK3NMK for using the minibus as a "taxi" for dinner participants – no worries about having to designate a non-drinking driver!

The Eastern Zone Amateur Radio Club (Inc) would especially like to thank the following for their contributions to the success of the event:

- All who attended, especially those willing to volunteer to present. Without presenters, an event such as this would not be possible.
- Churchill Lions Club, for the provision of lunches at reasonable cost (and especially at low energy input from the organising committee!).
- Pauline Corrigan and Mike Hurnell VK3NMK, for taking such good care of the Partners' Tour – a key component of the success of this event.
- Monash University Gippsland Campus for access to top quality facilities at a significant discount, and for the production of the Proceedings volume from the 2005 event.
- Special thanks must go to the following, for their generous donations to the impromptu raffle: TTS Systems of Cranbourne for the RF5 Antenna Analyser, RF Resale for the RF Connector kit and numerous items for the "junk table", VK5 Equipment Supply Committee for the HF PA stage, VK3XP & Bosch for the Automotive Interference Handbooks, Richard VK3ZCL for CDs of filter design software, Bryan VK3YNG for interface circuit boards for the AS5040 position encoder chip and Icom (via AA Radio) for numerous small items. These items brought in over $800, by themselves covering the venue costs for the weekend.

The Eastern Zone ARC looks forward to seeing you at GippsTech 2007, to be held on the weekend of July 7 & 8. Put it in your diary now.

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Mark 4 CW transmitter for 3.5 MHz and 7 MHz

Drew Diamond VK3XU
Photographs by Andrew Diamond

It is a singular pleasure to operate on air a transmitter and/or receiver of one's own construction. Except for the amateur with a desire to build, there appears to be only two kinds of published circuit from which to draw ideas: the cut-to-the-bone KISS (keep it stupidly simple) and the fully optioned "all-bells-and-whistles" outfit.

Counter to expectations, CW (Morse) continues in active use on our bands. Indeed, now that Morse is no longer a mandatory qualification for full HF privileges, our CW segments are enjoying renewed interest from enthusiasts who now freely choose to use the mode.

Numerous outlines may be found for very basic CW transmitters and they certainly make ideal "fun" projects to demonstrate just how simple a CW station can be.

However, a one or two-stage solid-state transmitter will almost certainly be chirpy, clicky, and generate harmonics and/or spurious signals. We must always remember, any signal that we regularly put to air, even a QRP one, should be as clean and stable as can reasonably be achieved.

Here is a fourth model (Mark 4) of a circuit, which has evolved over more than a decade. It is intended as a companion to the Simple Superhet receiver (Photo 1). I have tried to make it as uncomplicated as possible, yet produce an on-air signal that sounds as good as any factory-made rig. Output power on 3.5 MHz and 7 MHz is at least 5 W into 50 Ω from a 12.6 V DC supply. Harmonics are more than 45 dB below the fundamental. The output power amplifier (PA) is very tolerant of load mismatch, and can operate into a short or an open load without damage. The PA remains stable, even under serious mismatch or reactive load conditions.

Best simplicity is achieved by employing variable crystal (VXO) control. Cheap, stock QRP frequency crystals are available from at least one mail-order supplier, and a single 3.520 MHz ceramic resonator covers the entire CW segment of 3.5 MHz. 7 MHz crystals can be "pulled" about 6 kHz in this circuit.

Circuit

The line-up is the classic oscillator-buffer-driver-PA configuration, which allows the oscillator to run continuously during sending periods. Ordinary semiconductors are used throughout. The

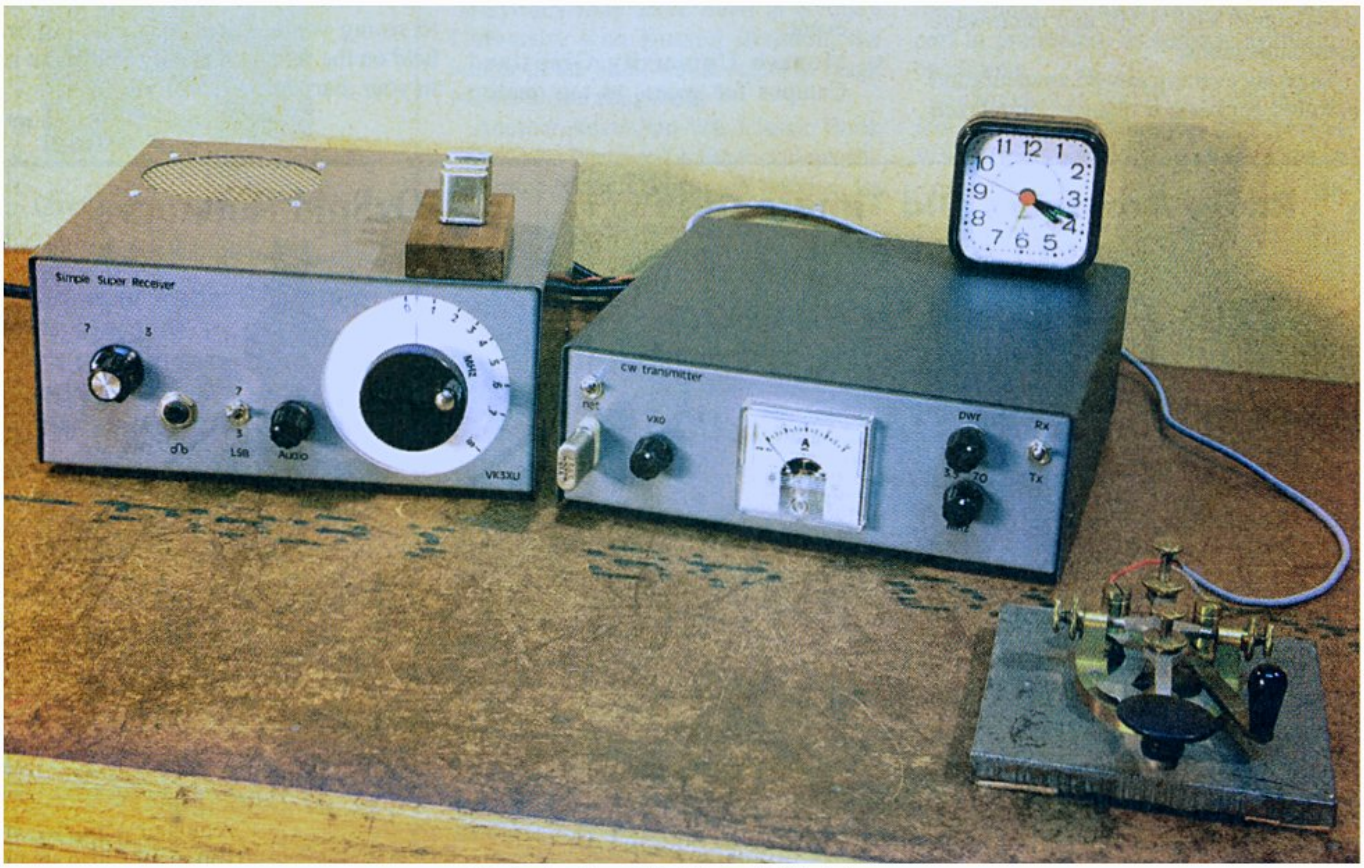


Photo 1 - Complete 2-band CW station.

crystal (or ceramic resonator) is maintained in oscillation with a 2N5485 FET. In order to provide a constant frequency, a second 2N5485 buffer amplifier is placed between the oscillator and the keyed driver, which effectively isolates the oscillator from load variations of the keyed stage.

A 74HC04 CMOS hex inverter is wired so that five paralleled inverters drive the gate of the IRF510 power MOSFET PA. The square-wave signal from the driver turns the PA on and off at signal frequency, whereupon a square-wave is produced at the drain. To provide a smooth control over the output power, an adjustable amount of forward bias is applied to the gate of the PA. Output may thus be varied from less than 100 mW to a maximum power of nominally 5 W.

On-off keying of the driver (and bias supply) is had with a single 2N3906 PNP transistor in series with a regulated 8 V supply. The 220 nF capacitor

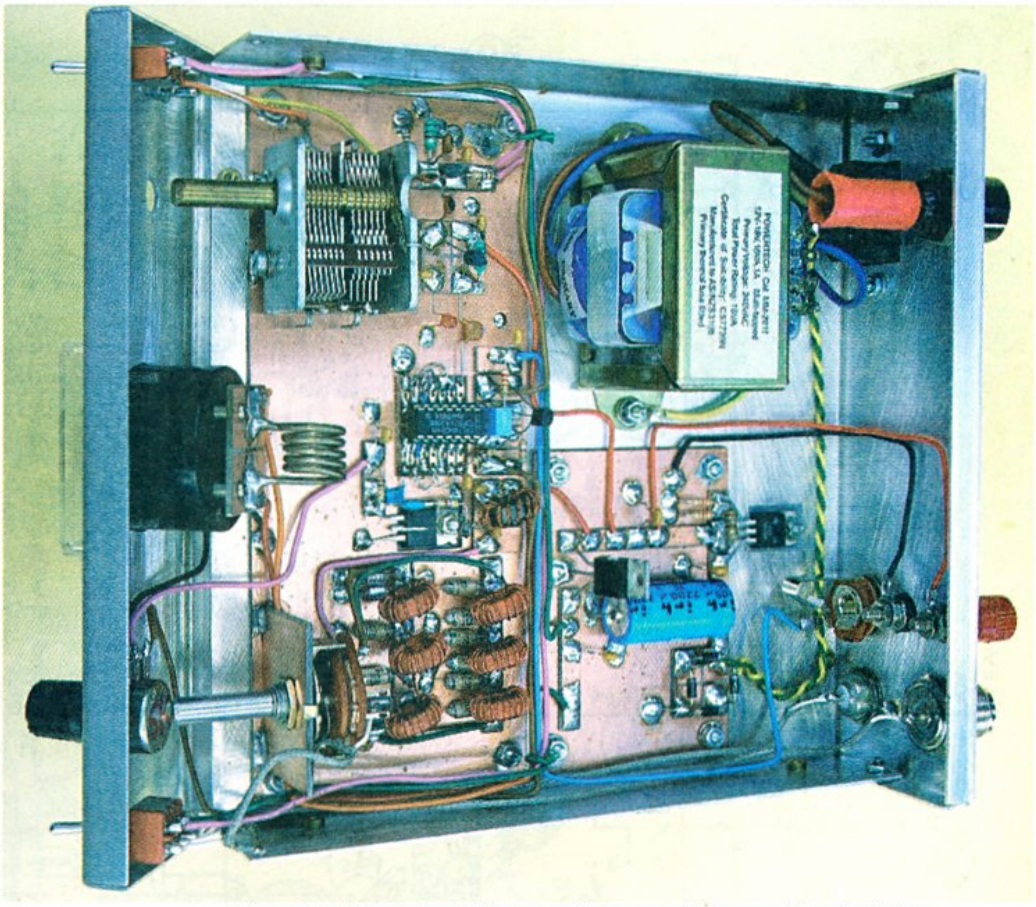


Photo 2 - Circuit board layouts (front panel lowered for clarity).

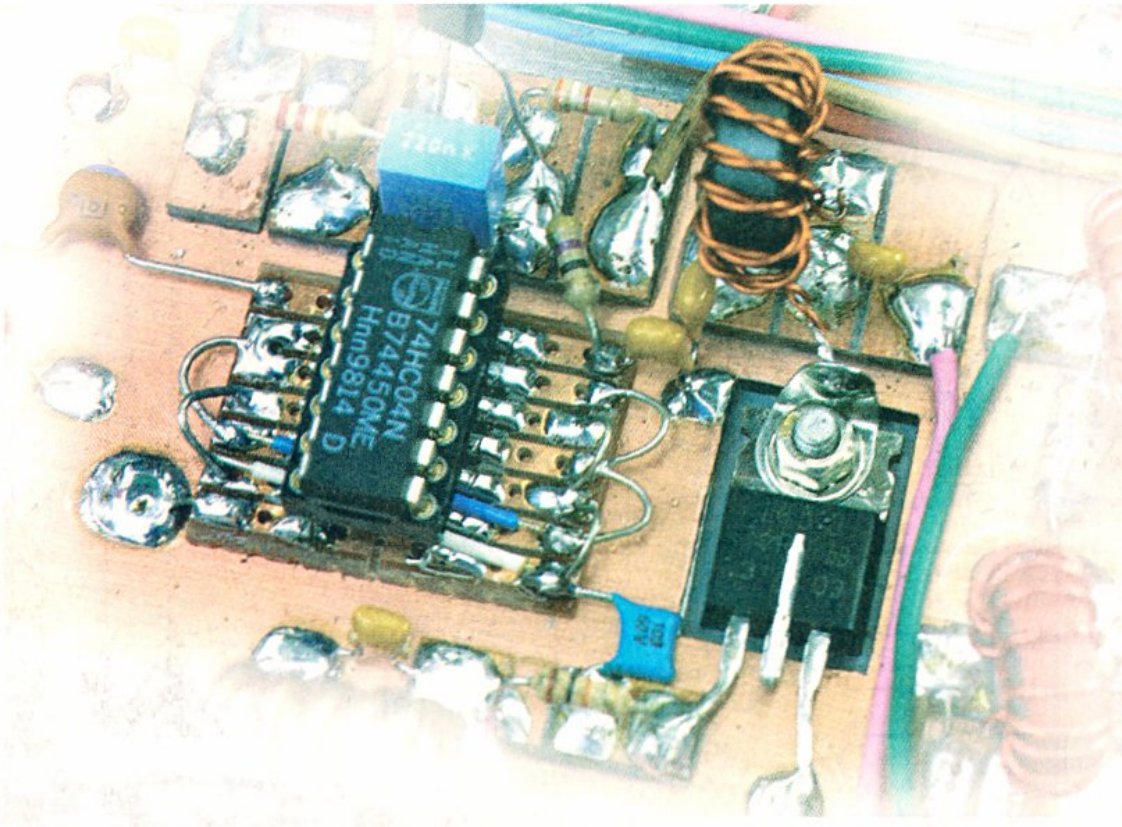
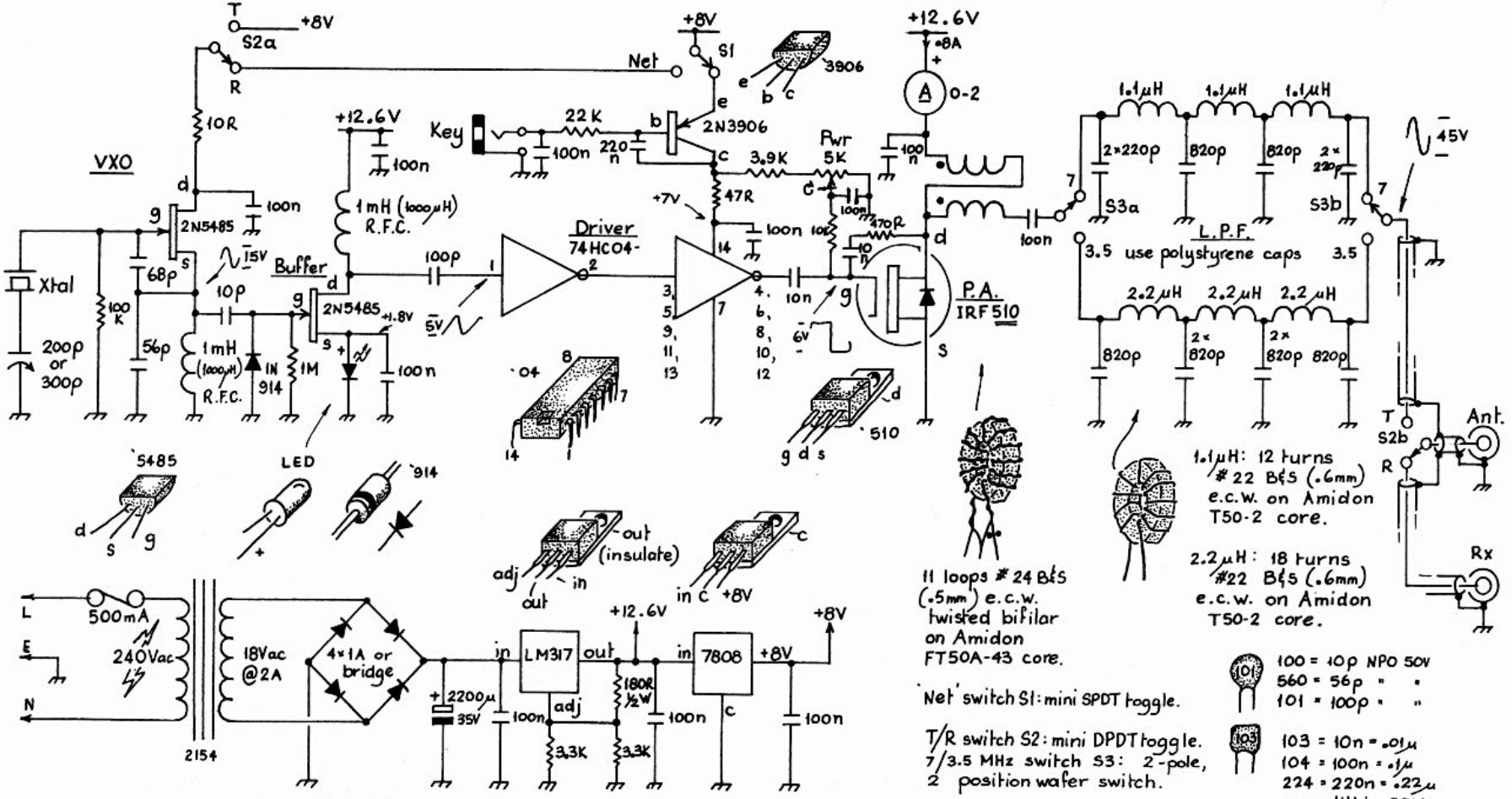


Photo 3 - 74HC04 substrate and PA

and 22 k resistor give a rise-time of about 3 milliseconds, and a fall-time of about 10 ms, to effect crisp, click-free keying.

Drain impedance of about 12.5 Ω is stepped up to 50 Ω through a 1:4 broadband toroidal transformer. The transformer also functions as the drain current feed choke. The output waveform is a very fruity square-wave, so the signal must be passed through an appropriate seven-element low-pass filter (LPF) to attenuate harmonics to an acceptable level.

A supply voltage of nominally 12.6 V DC is provided by a popular LM317 regulator chip, which can supply up to about



Voltages and waveforms shown obtained in (T)ransmit mode, key closed, 5W output power → 50Ω

Resistors :-		Qty
10R(Ω)	¼W	1
47R	¼W	1
180R	½W	1
470R	¼W	1
3.3K	¼W	2
3.9K	¼W	1
5K min.	lin. pot	1
10K	¼W	1
100K	¼W	1
1M	¼W	1

Capacitors :-	Qty
10p 50V NPO	1
56p " "	1
68p " "	1
100p " "	1
220p >50V prefer polystyrene	4
820p >50V " "	8
220n >50V polyester	1
2200µF >35V electrolytic	1
200 or 300p variable cap.	1

Semiconductors :-	Qty
1A, 400V diode	4
1N914/1N4148 diode	1
Red min. LED	1
2N5485 FET	2
2N3906 PNP transistor	1
IRF510 Pwr Mosfet	1
LM317 regulator chip	1
7808 " "	1
74HC04 inverter chip (prefer Philips or Hitachi)	1

Inductors :-	Qty
1mH (1000µH) R.F.C.	2
1.1µH toroidal coil	3
2.2µH " "	3

Mk 4 CW Transmitter for 3.5 and 7 MHz

—VK3XU—

Fig. 1

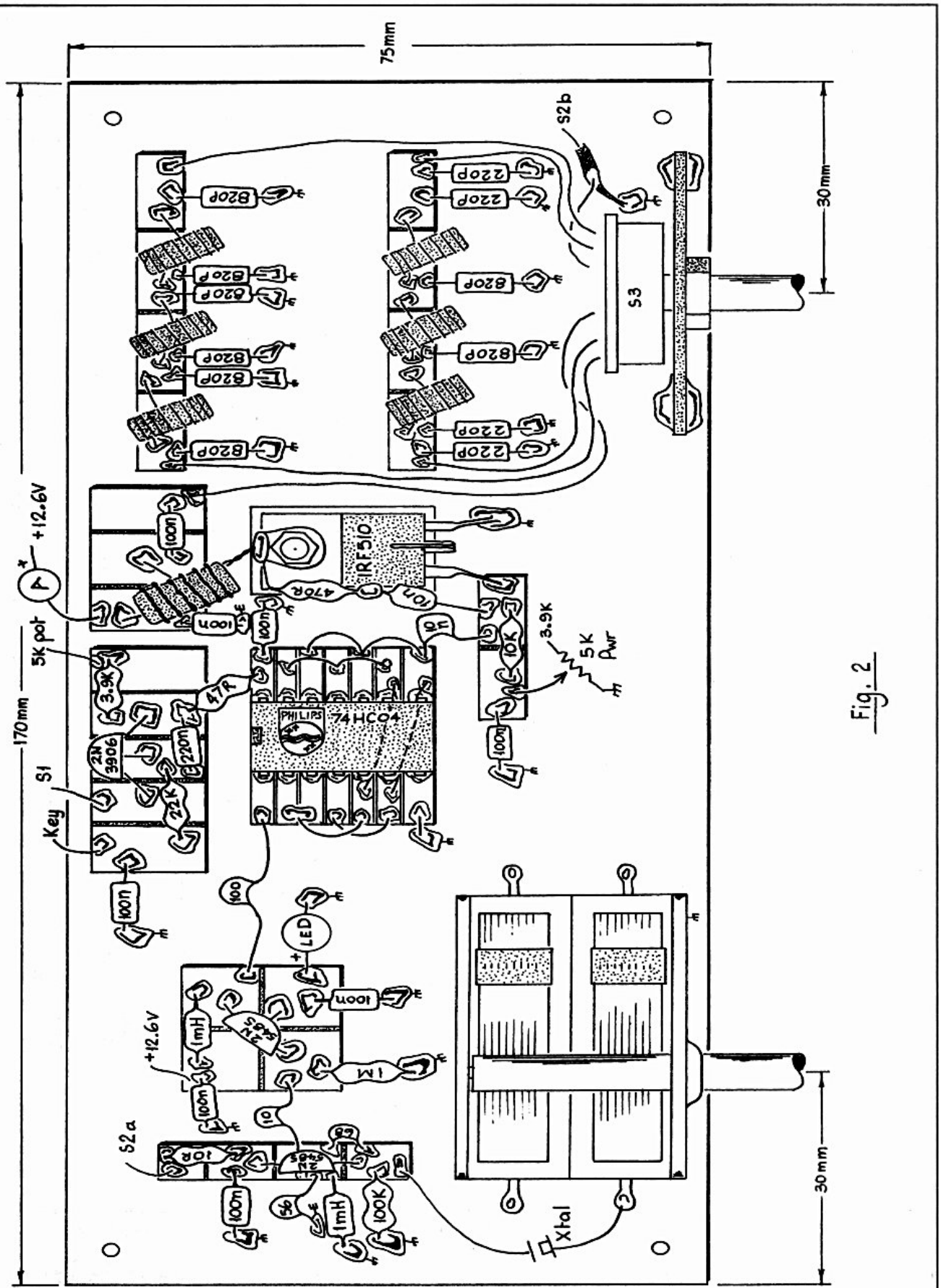

75mm
170mm
30mm
30mm
S2b
S3
220P
820P
+12.6V
5K pot
S1
Key
100n
3.9K
47R
2N3906
220n
22K
IRF510
470R
10n
PHILIPS
74HC04
10K
3.9K
5K Pwr
100
LED
1mH
1M
10R
S2a
1K
100K
Xtal

Fig. 2

1.5 A, but no more, thus adding a useful level of protection for the PA. The supply may also power a companion receiver.

Construction

The prototype model (centre, Photo 1) is housed in a homemade aluminium case measuring 190 x 190 x 60 mm (the same "foot-print" as the receiver). Any metal case of similar size will do.

The transmitter circuitry is accommodated "paddyboard" style (Reference 1) upon a copper-side-up board. The power supply is wired upon a separate board. Suggested layouts are illustrated in Figs 2 and 3, and Photo 2. The chassis/case acts as a heat-sink for the LM317 regulator. Make sure you include a silicone washer and the necessary mounting hardware.

The 74HC04 driver chip is accommodated in a 14-pin IC socket, which, in turn, is soldered to a 7-strip x 25 mm substrate of "Vero" board (Photo 3). A single, shallow, junior hacksaw cut is made along the Vero's length to separate the pins each side of the chip. With care, the socket may now be soldered to the substrate (copper-side-up) so that the IC pins simply contact the copper strips, rather than pass through the holes (and risk shorting to the board foil). The substrate is then (sparingly) super-glued to the main board.

To wind the PA output transformer, take two 270 mm (approx) lengths of #24 B&S (0.5 mm) enamelled copper wire (ecw), twist them together at one end, and fit that end in your vice. Then twist the free ends together and fix in the chuck of a hand-drill. Whilst maintaining a steady tension, turn the drill until you have about three twists per cm. Give the twisted pair a firm pull to "set" the twist, then remove. Carefully wind about 11 "loops" onto an Amidon FT50A-43 core, as drawn in Fig 1. Snip the leads, leaving tails of about 20 mm.

Then remove about 10 mm of enamel from each lead and, with your multimeter on ohms, identify each winding. Now connect the end of one winding to the start of the other to become the drain connection. The winding starts are shown schematically with dots in Fig 1.

The IRF510 PA MOSFET is mounted so that the bottom of the case provides heat-sinking. Accordingly, a 12 x 18 mm hole is made in the board as shown in Fig 2. Fit a TO-220 silicone washer at the MOSFET/case interface, and insulating/mounting hardware as appropriate. A solder lug under the fixing nut provides the drain connection, to which is soldered the aforementioned transformer wire(s) (Photo 3).

Ordinary shielded wire, being close to 50 Ω Zo, may be used for the necessary coax cable connections between the antenna and the receiver connectors, and the T/R switch S2. Outer braid connections should be made as shown in Fig 1. Ordinary hook-up wire may be used for the low-voltage and LPF-S3 connections. All wiring on the 240 V mains side of the power transformer MUST be suitably covered to prevent accidental contact.

For convenience and improved frequency stability, a 3.520 (or 3.580) MHz ceramic resonator may be mounted inside a defunct crystal case, modified as described in Reference 2.

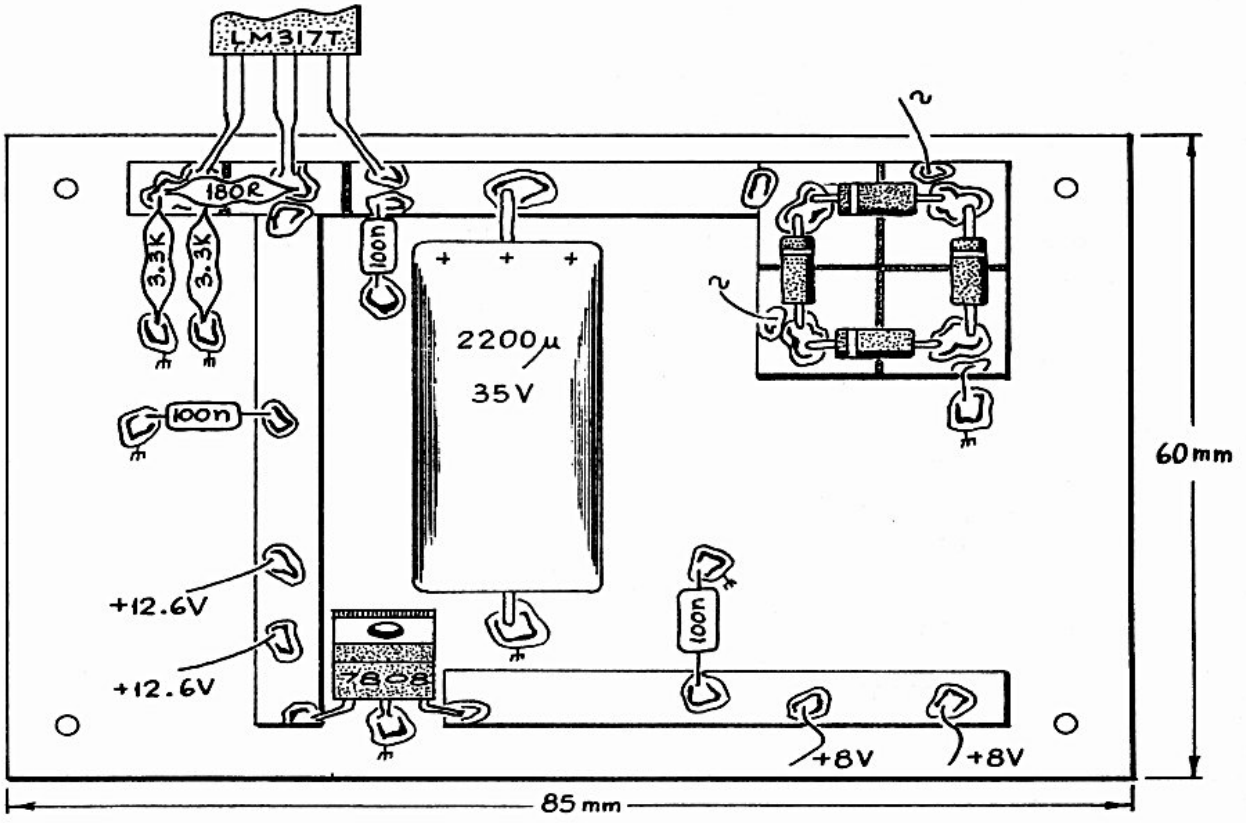


Fig. 3

Operation

Do a thorough wiring and parts placement/ orientation check. Pay particular attention to the polarised components, the semiconductors, IC, regulator chips, and electrolytic capacitor, etc.

With the T/R switch in the R(eceive) position, apply mains power. Measure the output from the LM317 regulator, which should read close to +12.6 V DC. Confirm, also, the output from the 7808 at about +8 V DC.

Using a short length of 50 Ω coax, connect a suitably rated RF power meter to the antenna connector. Install a crystal/ resonator and select the corresponding LPF with S3.

With S2 in the T(ransmit) position (and 'Net" switch S1 at normal), close the Morse key. Clockwise rotation of the power (PWR) potentiometer should cause a smooth rise in output power to at least 5 W, whereupon the drain current will be about 800 mA.

In use, the antenna (load) should have an SWR of, generally, less than 2. No damage should result, however, working into a somewhat higher SWR load.

To net onto a received signal, operate S1 to 'Net', then vary the crystal frequency by adjusting the VXO capacitor to obtain a similar beat-note to that of the received signal. When sending, you will be able to hear your own signal (strongly), and thus monitor your Morse and signal quality.

Parts

The ordinary parts are available from our usual electronics suppliers, including Altronics, Jaycar, Semtronics, Rockby and Electronic World (Ph 03 9723 3860).

The latter can supply the preferred Philips or Hitachi 74HC04, and polystyrene (Styroseal) capacitors for the LPF. IRF510s are available mail-order from Ocean State Electronics (www.oselectronics.com). The more common IRF511 will work, but not as efficiently as the '510.

The variable capacitor for the VXO may be any well-made part of 200, 300 or 400 pF maximum capacitance. 3.520 MHz ceramic resonators may be ordered from Wagner Electronic Services (WES Components); Ph 02 9798 9233.

Crystals for popular QRP frequencies of 3.535 MHz, 7.030 MHz and 7.038 MHz may be mail-ordered from Expanded Spectrum Systems (www.expandedspectrumsystems.com), and cost US$2.55 each (plus postage, etc). They come with flying leads only, so consider mounting them in a defunct crystal case, as for the 3.520 MHz resonator.

See Hamads in *Amateur Radio* for your local Amidon supplier.

If you have genuine difficulty in locating a particular item or two, please telephone, or drop me a line QTHR. I usually have spares on hand, or can suggest a source.

Automatic T/R

With additional circuitry, VFO and QSK may be included, along the lines of that shown in Reference 3.

References and Further Reading

1. ""Paddyboard" Circuit Construction - Revised"; *Amateur Radio*, May 2005.
2. "A Simple HF Signal Source"; *Amateur Radio*, Oct. 2002.
3. "A 4-Band QRP CW Transmitter with QSK T/R"; *Lo-Key #66* (CW Ops' QRP Club).

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DXpedition to the top end via satellite

John Titmuss VK4JWT

My job as a radio technician takes me to some very diverse locations. I thought I would share my most recent trip with you all, as I was in contact most days using AO-51 and SO-50.

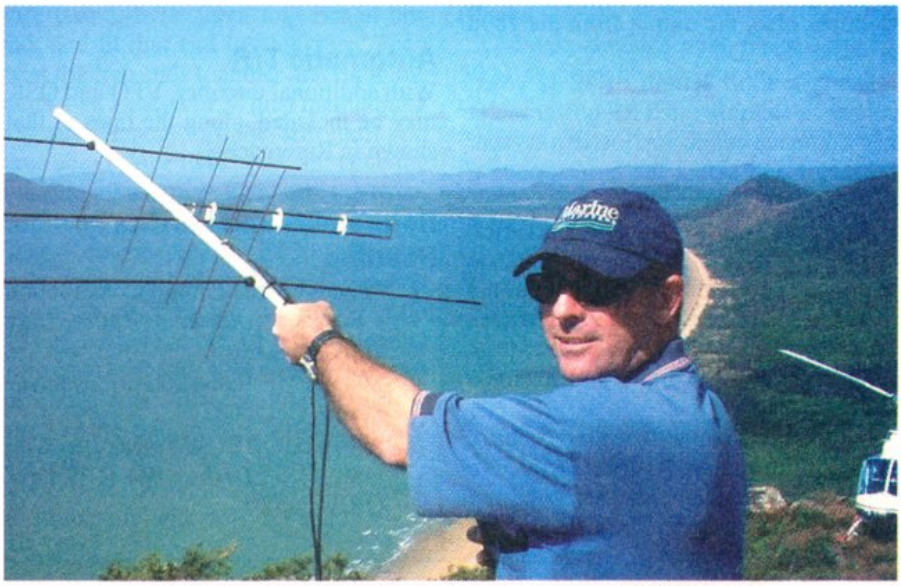
The gear I took with me was a home made 'Arrow' antenna, consisting of a piece of conduit with a 'dirty' six element Yagi for 70 cm, and holes drilled at right angles for three 2 m elements, which were cut in half and tapped with a thread for easy transportation. The rig I used was an Alinco DJ-G5, which operated full duplex with just two watts output.

The first contact was from Weipa on SO-50. Although there were a lot of trees around, I was still able to get a good signal from VK2TXT and VK2TJU in Sydney. The next day I was due to fly across the Cape to Lockhart River. The helicopter arrived from Thursday Island but, unfortunately (or fortunately!), the chopper would not start. Another one was despatched from Thursday Island and, two hours, later we were on our way.

I arrived at Lockhart River just after the AO-51 pass, so no contact. The chopper has to land on a purpose-built deck on top of a mountain, where solar powered ship to shore equipment is installed.

That afternoon we flew from Lockhart River to Thursday Island. I had a good contact that night with Rob VK4ZQ, and George VK2WEL, as well as a host of others. The next day I flew to a mountain top on Moa Island, in the Torres Straits. The chopper has to land about a kilometre down from the site, so it is a bit of a walk through the tropical jungle to reach the top. Once on top, I had a successful contact via AO-51 with VK4ZQ, VK2TJU, VK2TXT, and VK2WEL. That night I had a contact from the balcony of the Grand Hotel on Thursday Island via AO-51.

The next day was a plane flight from Horn Island to Cairns, where I had a contact from the inside balcony of the Holiday Inn on AO-51. The next day (Friday) was a helicopter trip to Bells Peak, just south of Cairns. Here I had another successful AO-51 contact.



Waving a strange looking piece of apparatus at the sky!

I had another AO-51 contact from Indian Head.

On Saturday I flew via chopper to Cooktown, where I had another AO-51 contact from Indian Head. Sunday saw another contact on AO-51 from the esplanade at Cairns. I think there were a few people wondering what this guy was doing waving a strange looking piece of apparatus at the sky!

On the Monday I drove to Townsville, where I had contacts on AO-51 from the roof of the Holiday Inn, and from Mt Archer. My last contact on AO-51 was from Home Hill, south of Cairns.

As you can see, working the LEOs is not that hard, provided you have a schedule of passes worked out before you go. All that is required is a home brew antenna, and a dual band H/T. I will definitely be taking my portable 'Earth station' on my next trip **ar**

News from...

VK2

Tim Mills VK2ZTM
E-mail to vk2wi@ozemail.com.au

The Clubs

This month will see activity with the Blue Mountains club holding their Winterfest on Saturday the 19th at Glenbrook. Next day - Sunday the 20th - the Riverina Field Day at Lavington [Albury], hosted this year by the Twin Cities Radio and Electronic Club. In October, the Oxley Region ARC will celebrate 35 years since being formed. In January 2007, the Coffs Harbour and District ARC have a new venue for their annual Field Day.

Last May, the Orana Region ARC mounted a display of the hobby at the three-day Dubbo Show. Various clubs and groups will be taking part in the Lighthouse Weekend and Marconi celebrations. Everybody should support the RD Contest, your log helps the State score.

A Morse mural.

Visitors passing through the Port Macquarie Airport should pause a while when departing to view the mural. Completed recently is a feature wall where the theme is Morse Code. At the top of the wall, the code symbol with its letter is displayed. In the centre there are two half globes of the world. Below is a message, in Morse - it reads - 'enjoy your flight' 'port macquarie airport'. To the left is a wall-mounted box that speaks to you when you approach. Mounted on top is a hand Morse key and in front of it is a message - in Morse - for you to send: 'is anybody out there?'

Exams

ARNSW exams this month will be on the weekend of 26th and 27th. Book via the temporary office at Parramatta: Phone 02 9689 2417. Write to PO Box 9432 Harris Park 2150 or email vk2wi@ozemail.com.au . Are you conducting exams? Please let the ARNSW office know so they can answer the inquiries that come in. One of the services provided by ARNSW is helping dispose of equipment from Deceased Estates. Check out the details with the office.

Local Publicity

Has your club approached your local parts retailer to display a notice about your existence and the exams that you conduct? This has a two-way benefit, you may gain members and expand the hobby with more callsigns and the store could benefit with a sales increase.

VK2WI

VK2WI has restored the AM mode to the 40-metre transmission. A bit of a reception struggle in the evening at the moment as Radio New Zealand is operating nearby due apparently to a transmission problem on another of their frequencies. The 160-metre transmission is currently off. A new and relocated antenna is planned. Many clubs provide relay services of the VK2WI news and some advise on the number of callbacks they take. These figures are passed on to WIA news. We would like all relay stations, who take callbacks, to either advise VK2WI direct or by email or VK1WIA. The news text can be found early in the week on the ARNSW web site www.arnsw.org.au . VK2WI News is now being compiled by Brian VK2TOX who has requested the items, if possible, to reach him by email with the deadline set at noon Friday. If it is sent by mail or fax, please send it early in the week so it can be passed on to him.

WICEN

WICEN [NSW] Inc held their AGM on 8th July. The retiring committee did not move fast enough and were re-elected. They also found a couple of 'volunteers' for the committee. There have been a few changes in that there are no longer Regions by boundaries. This enables more flexibility in the operations. Contact WICEN direct for details and membership.

73, Tim VK2ZTM

The Central Coast Field Day – Wyong

LECTURES

Sunday 18th February 2007

Mark your calendar and start making plans to attend the premier Field Day of the year, the Central Coast Field Day - Wyong

With the opening of our new and expanded lecture facility the CCARC is soliciting expressions of interest from Hams and non Hams to present Amateur Radio related topics.

Presenters and attendees will have the opportunity to exchange ideas and learn about recent advances, theories, experimental results, and practical applications.

The ideal lecture would be 30 – 50 minutes in duration.

For further information
CCARC Field Day,
PO Box 1408 Gosford 2250 NSW
Phone 02 4340 2500
Web www.ccarc.org.au
Email fieldday@ccarc.org.au

VK3

Amateur Radio Victoria News

Web: amateurradiocom.au
Email: arv@amateurradio.com.au
Jim Linton VK3PC

Office Upgrade

Anyone visiting the Ashburton Office recently would have noticed the new window signage that identifies Amateur Radio Victoria plus our website address. Thanks to member Brian Smith VK3NBS for offering and doing this job. It is the first of a number of changes planned.

The Amateur Radio Victoria Council at its meeting last month agreed on an office improvement program to make it more functional and create a better work place for our volunteers. Hopefully it may also lead to additional volunteers coming forward.

Our Treasurer Ross Pittard VK3FCE met with the regular volunteers to discuss proposals before they were to be considered by the council. This process identified improvements for the kitchenette, office space, equipment and amenities.

His subsequent report to the council meeting resulted in a schedule being drawn up with matters identified as either being an immediate priority, a medium term goal, or under consideration for early 2007.

The running of two amateur licence classes at the office earlier this year demonstrated its suitability, while the internal layout would need to be changed to accommodate a class of more than eight.

Progress is also being made towards the installation of an HF, VHF & UHF station at the office that could be used for class instruction and general operation as a club station. WICEN (Vic) would also have access to the station for its needs.

Council decided to purchase an Icom IC-7000 transceiver for the purpose. Separate VHF/UHF FM transceiver(s) are also proposed to form the overall amateur station.

RD Contest Reminder

The Remembrance Day Contest on 12-13 August will be run under revised rules. The overall winning State depends not just on activity but for participants going that extra step and submitting a log entry.

The so-called 'friendly contest' is in memory of those radio amateurs who died as a result of their involvement in World War 2. Running 24 hours, it begins at 6pm on Saturday 12 August, immediately preceded by an opening address broadcast.

Amateur Radio Victoria encourages all VK3's to prepare for, take part in even if only for a short period, and making their effort count towards Victoria total tally.

Barriers still exist?

Since the start of the three-tier licence structure ten months ago there has been an influx of new people to amateur radio and the bands are certainly a lot more active.

When the introduction of the Foundation Licence was being considered, the need for existing radio amateurs to be mentors for the newcomers was recognised.

This is occurring to some degree, which is good. What is emerging is that there are still barriers for people wanting to get into the hobby or once in, getting maximum enjoyment from it.

The Amateur Radio Victoria F-Troop Net held each Sunday is doing its bit to provide 'on air' operating opportunities for new licensees in a friendly environment, with the ability to ask questions and receive answers from knowledgeable radio amateurs.

There are reports that a few Foundation Licence courses and assessments are only willing to do so if they get a minimum number of say six people or so.

That practice is rooted in the past when the WIA Exam Service did require an additional exam event fee, and advance payments for exam material that could only be used for a specific candidate, time, date and venue.

The new assessment system did not continue that practice in the belief it would make access to assessments much more frequent, either through regular events or at a convenient time for assessors and candidate.

Amateur Radio Victoria at its monthly events has included candidates willing to travel long distances to get into a course and be assessed, rather than wait until one may be available locally.

Another barrier is a lack of knowledge about transceiver types. There are concerns about being an ill-informed consumer - Not knowing what second hand price is fair or excessive. The used equipment market is showing signs of price inflation in comparison with those for the same or similar equipment last year.

With young people, often their entry into amateur radio is dependant on the household budget. Some parents, while willing to pay for the training course, are reluctant to go that extra step and spend $57 for a licence, until a radio transceiver is obtained as a birthday or Christmas present.

These and probably other barriers need to be recognised and possible responses considered to reduce of minimise their negative impact on the growth of amateur radio. Any suggestions on how to address these barriers would be welcome.

Silent key

Michael Rogers VK7DU

Mike lived in Bellerive and was mainly heard maritime mobile on HF. Mike was a keen yatchy and was a long time member of the Bellerive Yatch Club, his nickname was "Spike". Mike regularly sailed the yacht "Siesta". Port Davey on the West coast of Tasmania was a favourite destination with regular skeds on HF. Mike was also a regular on the 2 m broadcast callbacks.

Vale Mike.

(Mike VK7FB & Dave VK7DM)

Peter Pavey VK3VB / G3NFT,

Peter became a silent key on 1st of July 2006, aged 66. Survived by his wife Patricia (VK3OZ) and children Paula, Patsy-anne, Phil (VK3YB) and Peter.

Phil VK3YB

News from...

VK5

Christine Taylor VK5CTY

Adelaide Hills Amateur Radio Society

The meeting in June was a strange one. There was a power blackout on "our" side of the street. The meeting was held was conducted by the light of the "Exit" signs! That included supper!a

To complicate the problems the lecturer got lost and neither he nor the President Jim VK5NB had the other person's mobile phone number!

However, the lecture situation was overcome because one of the visitors was Justin VK7ZTW. Justin stepped into the breach and gave a very interesting talk about the experiences they have had in Tasmania with PBL interference.

Because it is not happening "in our own backyards", most of us in the other states are not aware of just how bad the interference experienced by amateurs is. Those who are 'testing' transmission of electronic signals on the power lines are doing so in some of the less populous areas and where there are fewer people who are likely to be affected by any interference.

The problem then is that the "results" obtained by these tests will be used to argue that there is not much interference when the telcos want to use PBL in more populous places.

As amateurs who WILL be affected by this interference, we need to be aware of it and we need to be vocal in our objections to it.

Justin has been writing about the experiences of VK7 amateurs for some time. Perhaps we should go back and have a closer look at what he has had to say – and what the President of the WIA, Michael Owen had to say on the matter.

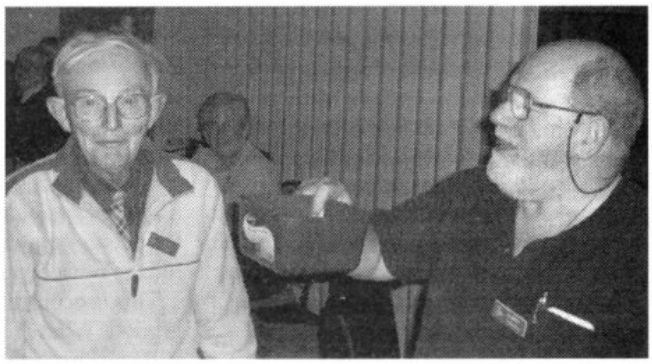
Apart from the very thought provoking lecture, mention was made by Jim VK5NB of the several projects to be offered to club members in the next few months. These projects include making a G5RV antenna and the associated ladderline feeder, an antenna tuner, a balun and an SWR bridge.

Watch this column for more information.

Please note, there will be a change of venue for the AHARS meetings from the August meeting.

We will be meeting in the Belair Community Hall. Listen to the Sunday morning broadcast for more details or ring Jim VK5NB or Leith VK5QH QTHR the callbook if necessary.

At the beginning of July AHARS had its usual mid-year Dinner. Barry VK5ZBQ is seen here with Noel VK5VT.



Lower Murray Amateur Radio Club

This club is a subsidiary of AHARS, taken under their wing several years ago when the number of members of the LMARS was too low to support the cost of the callsign etc.

It was felt that centred at Murray Bridge and with a number of members, members of both clubs, it was appropriate that the larger club assist the smaller one.

Since then the number of amateurs in the Lower Murray has increased to the extent that they can hold mid-year and Christmas Dinners to which they invite the President of AHARS.

The Club has access to clubrooms for a nominal fee through the support of the local community. The LMARC now holds weekly meetings in the clubrooms at which they share experience and undertake local projects.

It was recently reported that the Radio Club had a booth at one of the local Field Days, which generated quite a bit of interest. Perhaps other clubs could follow suit.

The photo shows that the ladies are well represented at the dinner and in the Club, with two licensed amateurs, Meg VK5YG and Jenny VK5ANW, here seen with John VK5CJM and two of the XYLs on either side.

VK7

Justin Giles-Clark VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

It was great to see so many VK7s in the 80 m Trans-Tasman contest results. Congratulations to VK7s – VH, TAZ, GN, HDX, HAY, ARN in the phone section and VK7RO in the CW section. It was also great to see Rex VK7MO at it again at GippsTech 2006 with two talks entitled – "Newcastle TV - A Frequency Reference and Propagation Beacon" and "QRP EME on 1296 MHz".

Tassie Devil and Trout Award Net

Thanks to Vince VK7VH who has handed over the net controller reins to Jack VK7IL on the Tassie Devil and Tassie Trout Awards net. This net enables amateurs to gain points for these prestigious awards and it takes place on Thursday nights from 8:00pm to 8:30pm EST prior to the CHARCT Quiz Net. The frequency is 3.585 MHz.

VK7 Regional Broadcast Report Card

The first six-month callback statistics for 2006 for the VK7 Regional News broadcast have been released and it's great news! Compared to 2005, there is an overall 13% increase in callbacks with an average of 90 callbacks each week. This can be attributed to a 23% increase in HF and an 18% increase in Southern repeater callbacks. Take a look at http://reast.asn.au/archive.php for more information.

VK7REC needs your help!

Alan VK7ZAR and Joe VK7JG are currently undertaking some much needed work on VK7REC at Snow Hill covering the East Coast, Southern Tasmania and even as far as the NW coast. Joe has replaced the repeater hardware, Brian VK7RR has replaced the PA and Alan is replacing the antennas thanks to Chris Edwards at Moonraker Antennas. Thanks also to Dick VK7DIK, Paul VK7KPG and Peter VK7PD for helping with the maintenance. The cost of the antenna replacement/upgrade alone will be approx. $300 not including fuel and sundries. It is now up to the users of VK7REC to contribute to this maintenance/upgrade work. Please seriously consider donating if you use this repeater. Donations may be sent to REAST and these will be forwarded on.

Central Highlands Amateur Radio Club of Tasmania

Please note that CHARCT has a new web address: http://www.qsl.net/charct/ Do not forget the VK7 Hamfest on Saturday 2nd December 2006, at the Miena Community Hall in the Central Highlands.

Northern Tasmania Amateur Radio Club

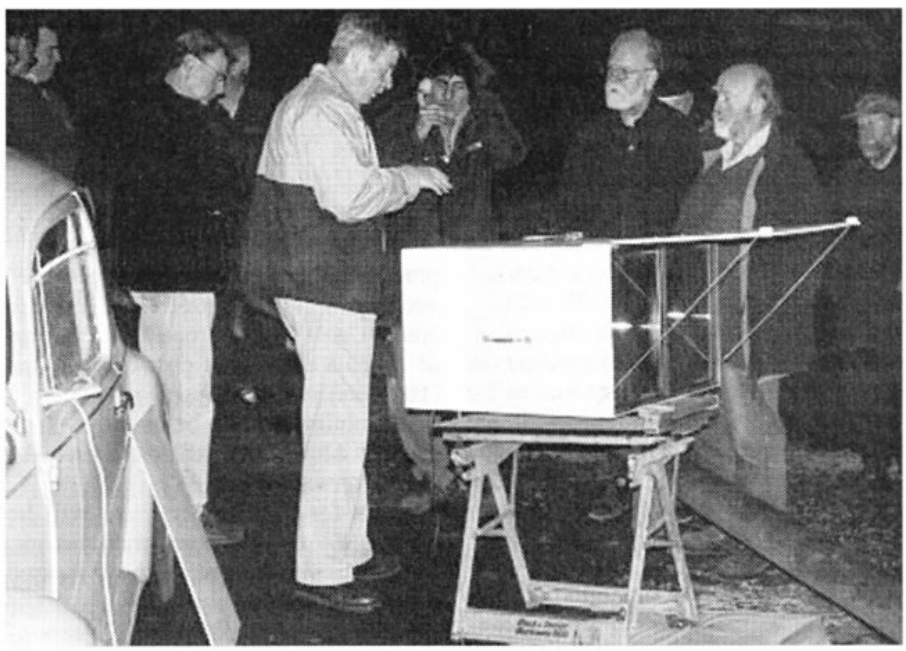
June 14 saw Ken VK7DY and XYL Wendy VK7FWJS give a talk about ATV. Ken had a table full of goodies to show/explain and tell, as well as informing us how cheap it can be to get started; thanks Ken! Brian VK7RR and Joe VK7JG also need thanks for their work on getting the Barren Tier to Mt Barrow link up and going again. Thanks to Rick VK7HBR for the donation, at the June meeting, of a CD player and Greg VK7YAD for his interference detective work with VK7RAA.

North West Tasmania Amateur Radio Interest Group

There has been an incredible amount of work undertaken by the NWTARIG in preparing for the Marconi Centenary Celebrations over 12-16 July 2006. This was to commemorate the first transmissions over open water in the Southern Hemisphere in 1906 by the Marconi Company between Queenscliff (VK3) and Devonport (VK7). Special event stations VI3MC & VI7MC operated and an attractive QSL card is available. An exhibition of original and historic equipment was held at the Devonport Maritime Museum. A reprint of the original brochure with supplement is available. Check http://vk7ax.tassie.net.au/marconi/ for more details.

Radio and Electronics Association of Southern Tasmania Inc.

There is a new 160-metre net on 1.840 MHz at 4:45pm EST on Tuesdays, Wednesdays and Thursdays. Dave VK7DM is the net controller and takes reports and callbacks



Mike VK7MJ explaining while Eric VK7TAS talks with Reg VK7KK via the photophone.

VK7 *continued*

on 1.840 MHz or on repeater VK7RAD/RHT (146.700/146.850). We welcome new foundation licensees: Damien VK7FDNA, Michael VK7FMRS, Mike VK1FMJP, Sue VK1FADM, Steve VK7FAME, Rhonda VK7FRAE, Tom VK7FTWS, Scott VK7FREK, Declyn VK7FUNN and Dean VK7FNWO. We also welcome our new standard licensees: Spencer VK7HSY, Ben VK7HAH, Bruce VK7MBD and Brian VK7HAI.

We had some sad news from Cape Bruny at the end of June from Andy VK7WS, who is lighthouse keeper at the Cape. A fire in the shack destroyed all his radio equipment along with historical radio and weather recording equipment. It also destroyed the radiotelephone, causing some difficulty in raising assistance. Fortunately, the shack was in a separate building from the house.

On Wednesday 5 July, about 20 people enjoyed a demonstration and talk by Mike Groth VK7MJ. Mike is a leading experimenter in the area of optical communications methods and set the world distance record in February last year with Chris Long. The evening started with a contact made between the Queens Domain to Reg VK7KK on Mt Rumney. The evening then progressed with an illustrated talk by Mike on the practicalities and theory behind optical communications. Thanks to Mike for giving us the time and his vast experience with this fascinating subject. A detailed description of the night is available on the REAST website.

Mike, VK7MJ, with his new optical transceiver.

VK4

Redcliffe and Districts Radio Club

The Redcliffe and Districts Radio Club recently received a grant for the Gaming Commission Community Benefit Fund to upgrade the clubs facilities.

Work is well underway and the club has a new radio room, upgraded kitchen, upgraded 2 m repeater and new computer and audiovisual equipment for training purposes. The roof of the clubrooms will also be relined to improve insulation and reduce the noise when it rains.

Thanks to the help of many club members, the facilities are now ready for use and the club is planning to operate from the clubrooms during the upcoming Remembrance Day Contest. All are welcome to come down and check out the clubs facilities which are in MacFarlane Park, Klingner Road, Kippa Ring, opposite the Redcliffe PCYC. See our new website at http://vk4rc.we.net.au for a map of our location plus more information on the club and its activities.

The Redcliffe club also has two accredited assessors and has successfully completed a number of Foundation Licence assessments. More courses, foundation, standard and advanced are being planned, and if you would like to participate, please contact the club secretary Peter Richardson on 0419015613 or via email secretary@vk4rc.we.net.au

VK4 Inwards QSL Bureau

Eddie DeYoung VK4AN

The new direct postal address for the VK4 Inwards QSL Bureau is P.O. Box 1335, Maryborough QLD 4650. The old address can still be used, but will delay receipt and processing.

QSLs for WIA members will be processed and posted Free-of-charge via affiliated clubs or direct to the member's postal address. If the member is QSL manager for any non-WIA members, then the non-WIA member fees are applicable. If the member has cards forwarded for personal operations in other areas, those cards will be handled Free-of-charge.

QSLs for non-WIA members will be processed, but a "processing & postage" account must be opened and kept in credit. Cards will be processed at the rate of 5 cents each, plus cost of envelope (10 cents) and postage. It is suggested that a minimum of $5 be sent to open an account. This is for cards posted via clubs or sent direct.

QSLs for JOTA operations will be processed Free-of-charge for all stations. Cards received will usually be processed within 7 days of receipt.

Cards not claimed within 5 years of receipt will be sent to the WIA QSL Museum.

Cards will usually be available at the Brisbane, Sunshine Coast & Gold Coast Hamfests. Cards may be personally claimed free-of-charge.

It is the responsibility of members to keep the bureau informed of any change in postal address; change of callsign; additional callsign(s); card management.

It would also be appreciated that I be advised of any VK4 that becomes a 'silent key'.

Yours in amateur radio,
Eddie DeYoung VK4AN

VK5

Elizabeth Amateur Radio Club

Antenna Testing Field Day

9th April 2006

Paul Gale VK5ZKG and Keith Gooley VK5OQ

The primary reason for the field day was to test the new VK5ROC repeater antenna constructed by Dennis VK5FDEN and Keith VK5OQ.

Signal Source: Icom IC706IIG transceiver

Ref Antenna: Dipole constructed from 1" dia tubing

Receive Antenna: Rohde&Schwarz Active Broadband Directional Antenna model HE200

Field Strength Meter: Home-brew broadband RF power meter based on an Analog Devices AD8307 Log-detector IC

Method

The Icom transceiver was used to provide 9 watts at approx 437 MHz.

The antenna under test was replaced by our reference antenna and the field strength was measured. This provided our basis for quoting the "gain" of the antennas.

The antenna under test was installed and the field strength noted on the Field Strength Meter. The receive antenna was moved up and down by about one wavelength to check that ground reflection was not influencing the measurement significantly. The test antenna was also rotated to measure directional characteristics.

As the field strength meter indicates in dBm the two readings could be simply subtracted to give a gain directly in dB.

Antenna descriptions

Reference antenna: a half wave dipole on 70 cm made from 25 mm aluminium tube with broad bandwidth in mind.

VK5ROC antenna: a vertical array of 4 aluminium folded dipoles fed in phase.

Club J-pole: a dual band 2 m / 70 cm aluminium antenna built by Dennis VK5FDEN 5-el Yagi: a small 70cm Yagi used for field days.

Copper J-pole: 2 m J-pole made of copper pipe and soldered fittings.

3-el Yagi: 2m antenna

Results

(70 cm)

Noise floor:		-48 dBm	
Reference:		-9 dBm	
ROC antenna	0°:	-1 dBm	Effective gain 8 dB
	90°:	-2 dBm	
	180°	-9 dBm	
Club J-pole		-5 dBm	Effective gain 4 dB
5-element Yagi	0°:	+2 dBm	Effective gain 11 dB
	90°:	-6 dBm	
	180°	-33 dBm	

(2 m)

Noise Floor:		-34.5 dBm	
Reference:		none available	
Club J-pole		0 dBm	
Copper J-pole (VK5ZKG):		-6 dBm	
3-element Yagi	0°:	+4 dBm	
	90°:	-9 dBm	
	180°	-6 dBm	

Discussion

The main result that the repeater antenna had a gain of 8 dB over the dipole reference was pleasing and indicates that the antenna will perform well in service.

The Club 2 m / 70 cm aluminium J-pole also performed well as did the 5-element Yagi with a gain of 11 dB. The surprise was the copper J-pole which was 6 dB down on the aluminium J-pole. This is an unexpected result as the two should have roughly the same gain. As 3 of these copper antennas were made at the same time the poor performance requires investigation. The SWR of the copper J-pole is good at better than 1.5.

The results indicate the value of quantitative testing of antennas.

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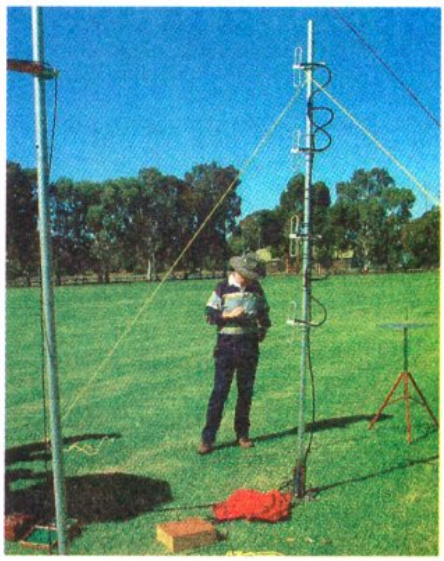

AMSAT

Bill Magnussen VK3JT

Exciting news in the development of the "Eagle" high orbit satellite

This announcement was made in mid-June on the AMSAT-BB. It was in response to a cry from some members that a veil of secrecy hung over the "Eagle" project. This claim is often made, almost every time a new bird is on the drawing board. It usually falls to one of the project team to act as information officer and the calls on their time and energy are many. The various project teams have been acutely aware of this for some time and now it appears a satisfactory solution has been achieved. It has meant a huge workload for one or two people, Emily Clark in particular. Here is the announcement:

Today EAGLE Project Manager Jim Sanford WB4GCS, announced that EaglePedia is now open for general use. EaglePedia is the communication medium used by the EAGLE developers, and is now accessible to all AMSAT members. A basic principle of the EAGLE project is open design, so Jim made the decision to open access to the EAGLE development effort once EaglePedia, a new effort itself, was judged to be ready for general use.

The entire Eagle team has been enthusiastically supportive of openness to the members, said Jim. *We are excited to give all AMSAT members the opportunity to understand and to follow the design process of the various satellite components and system.*

Emily Clarke N1DID has developed and customised the EaglePedia application using the MediaWiki software engine that was developed for Wikipedia.

I'd like to thank Emily for all her efforts. She has adapted the wiki product to our needs, educated the illiterati (mostly me) and added functions to make it easier for us to use. EaglePedia would not be the tool that it is, without tremendous effort on Emily's part, and I am extremely grateful for all her work.

All major decisions about the spacecraft and their supporting documentation will be available through the site. Although only EAGLE team members will have the ability to comment on what is posted there, all will be able to see them.

Jim notes that, *There will be some areas of the site that are available only for internal EAGLE team communications during the preliminary development stages. I have made this decision to allow unfettered communications among the team during the early phases of concept refinement and design. Once peer review of a design is complete, the initial design, peer review comments, the resolution of those comments, and the revised and approved designs will all be available to AMSAT members.*

Jim, the entire EAGLE team and AMSAT President Rick Hambly encourage everyone interested in amateur satellites to take advantage of this "new way of working" and to follow the EAGLE design process and developments.

We are excited about offering the unprecedented access into EAGLE's development. I fully expect this approach to enhance the EAGLE design process and improve overall product quality, said Rick. EaglePedia can be accessed via the AMSAT.org front page using the EAGLE link in the "Quick Access to Project Pages:" section found on the top right of the page. Welcome to open satellite design.

The AMSAT group in Australia.

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members, AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net.

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500 UTC during summer time periods and 0600 UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net.

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:
AMSAT-VK,
9 Homer Rd,
Clarence Park, SA. 5034
Graham's e-mail address is:
vk5agr@amsat.org

Preparing your station for the High Earth Orbiters – *Part 1*

While discussing the above item with friends the other day it became apparent that many newer satellite operators will have developed their interest during the recent period where the only birds available have been low earth orbiters. Oscar-10 occasionally pokes its head up but it is a mere shadow of its former self and certainly not spectacular enough to get anyone excited about high-earth orbiters.

The unexpected revival of AO-7 will have given newer AMSAT-ers a glimpse of how much difference even a doubling of the usual low-earth-orbit satellite altitude can make to the footprint area and therefore the enjoyment factor. Multiply this by the first number you think of - and you have a High Earth Orbiter (HEO).

Oscar-10 was the first HEO. It was launched back in 1983, yes, that's 23 years ago. Time flies – eh? And what a sensation it was. The first attempt at launching a "Phase-3", high altitude, elliptical orbit bird had resulted in a disaster with P3A going into the ocean along with a quantity of commercial satellite hardware and the hopes and dreams, the sweat and tears of a dedicated and hard-working AMSAT project team. There was no internet or

instant information coverage then and I can remember everyone being stunned when Graham confirmed our worst fears on the HF net. All fingers were firmly crossed on June 16th 1983 and sure enough, at the appointed time the beacon turned on and we all breathed a little easier. AO-10 was alive and we never had it so good.

There had been nine previous "Oscars", all low-earth-orbiters and eight similarly placed Russian "RS" birds. Everyone was agog at the anticipated extended footprints of high orbiting satellites. AO-10's elliptical orbit had a perigee 3 times the height of most satellites to that time and we watched in awe as it was flung out almost 40,000 km into space at apogee where it slowed to walking pace before plunging back again. Its vantage point at apogee afforded a position where 'half the world' came under its footprint – not for just a minute or two but for several hours. We were all made familiar with the geometry and the expected coverage but it was still amazing to hear those first signals come in from all over the USA, Europe and Africa.

Many operators had their stations ready for the earlier unsuccessful launch attempt and their hard work began to pay off straight away. With the right gear, operating AO-10 was a breeze. We even conducted the AMSAT-VK net on the mode-b transponder with all states from Antarctica to New Guinea and ZL joining in. AO-10's 70 cm receiver was very sensitive and easily accessed with a few Watts, even at apogee. All you needed was a good antenna system, more on that later.

QRP became the "in" thing among the VK/ZL gang at least. Next, we saw the French Arsene satellite in its amazing high altitude 20,000 km – 40,000 km elliptical equatorial orbit. An orbit still spoken about in revered whispers by those fortunate enough to experience it. For many it was their first foray into the mysteries of microwaves. The signal-to-noise on the 2.4GHz downlink was amazing. The SSB signals stood out many "S" units above the whisper quiet noise floor which was just audible – again – if you had a good enough antenna.

Then in June 1988 came P3C or Oscar-13 as it became known. It went on to become a great performer with nearly all its transponders and modes tried out and operated successfully before its orbit decayed in December 1996.

Then came P3D or Oscar-40. It looked like being a winner until an unexpected, perhaps even explosive event on board caused a catastrophic failure of several vital components. It limped along, taking up an enormous amount of time by the control stations but failed altogether some time ago. While it was operational, AO-40 performed magnificently on all modes tested. Like Arsene, its 2.4GHz down link surprised everyone with the clarity of reception. Such then is a potted history of the HEOs to date.

So, what about setting up a station today? What does one need? What would be the minimum requirement? What would be considered a good HEO ground station? Why bother at all considering the present situation?

It has been suggested that I spend some time, perhaps over a column or three, looking at these questions – and of course I welcome any input from satellite old timers. There's quite a few around with fully equipped stations out there waiting for the next HEO but there's also a heap of folk wondering what they'll need when the time comes. The next few years will – if all goes well – see the launch of two HEOs, each with a different emphasis but with many common requirements in regard to ground station equipment.

It is a steep learning curve from LEO to HEO but many operators have made the jump. In VK, the population of AO-10 regulars 23 years ago probably exceeded the total number of satellite operators today. Rather surprisingly even the earliest HEOs had capabilities up into the microwave regions. Their orbits were similar to the high orbiters we now await, so the basic requirements for the ground station have not changed much in all that time. If anything, it should be simpler and comparatively cheaper to set up a HEO ground station today.

If you have cut your teeth on the LEOs, now is a great time to upgrade your station for the forthcoming HEOs. Your new "Oscar" ground station will be useful in other areas too. If you do it right you will have the basis of a fine weak-signal station for terrestrial DX or meteor scatter.

Now, as then, you still need to do it right. You will still need stable, sensitive VHF/UHF SSB transmitters and receivers as the basis. Computer access to the CPUs is more or less a must. Modern multi-mode transceivers featuring computer control have been available for a long time and many operators use such a device as the central pillar in their station.

Some however, still prefer separate transceivers for each band for greater flexibility or even entirely free-standing receivers acting as tunable IF strips for microwave or UHF down-converters.

Either way there is no shortage of "out-of-the-box" equipment suitable for VHF, UHF and the lower microwaves. I couldn't have said that 10 years ago or even 5, but a lot's happened in the last few years.

You will need to pay close attention to your antenna system as a whole. That was true in 1983, it's still true today. The people who got the best results were those who did not compromise in the design and construction of their antenna systems. The most radical change from LEO to HEO, and the one for which you will be least prepared, is the need to cope with greatly reduced and often quite weak received signal levels. High orbiting birds can be a long way from your ground station, up to 50,000 km at times when the working footprint is greatest. The transmitter power will often be measured in milliwatts, you do the maths. It represents quite a challenge. Most LEOs are one or two thousand kilometres away and sometimes only hundreds of kilometres away during optimum contact times.

Preparing for the high orbiters is rather like setting up for weak signal reception such as meteor scatter or UHF-DX and it shares many of the same problems. The 'weak-signal' aspect of serious satellite operating is where most problems occur and it needs to be addressed when setting up or augmenting your present station for the HEOs. Do not try to do it with a hand-held and rubber ducky. It is absolutely no use whatever trying to compensate for receiver inadequacies by using higher power or talking louder! A bigger linear amplifier may well be able to blast a hole in a DX pile-up on 20 m but you can't do that on a satellite. This is a difficult point to get over and the message applies to the LEO fleet as well.

One of the most common problems associated with operation on the HEOs is that of the "Alligators": operators with tiny ears and big mouths. People

who cannot hear their own signal being transponded by the satellite, or even hear the satellite's beacon for that matter, and who attempt to make it all happen by yelling or turning up the power. A surprising number of people don't seem to be able to grasp this simple point and it has turned out to be so much of a problem that clever counter-measures have had to be taken to prevent such practice from making everyone else's life a misery.

"LEILA" is such a system. Don't worry about the name. It's a German mnemonic that doesn't make the journey into English easily. The system was devised many years ago and to a large degree perfected on AO-40. Leila is very effective in dealing with "Alligators". You should read-up on Leila before getting too excited about HEOs. It's good practice to plan your station so that you are able to hear the beacons loud and clear before ever attempting to transmit through any satellite transponder and this maxim applies nowhere more than to the HEOs.

If you are aiming for a top-line station, you should not stop improving until you can hear the transponder noise floor. This is a bit hard to do without a HEO to practice on but you know what I mean.

In the case of LEOs, hearing the beacon was and still is relatively easy. Not as easy as the local repeater; but in terms of serious satellite operating, a pushover. You could make do with a rubber ducky on your hand held radio to make contact with LEOs like MIR, ISS, the Space Shuttle and some of the FM birds. Forget about doing the same with a HEO. Even with simple beams or outdoor omni antennas you'll be restricted to very brief and very short range contacts when the satellite is close to perigee – and acting much like a LEO.

Remember too that the most exotic and exciting modes are not turned on around perigee. They are reserved for the long apogee periods when they are most useful. You will need to grapple with some sort of simple tracking system and achieve at least moderate gain in your antennas.

Receiver de-sensing can be a problem on some modes. Most HEO satellite work is conducted using full duplex. With up-link and down-link antennas in close proximity, often on the same rotator, your out-going signal can seriously degrade your receiver performance, even wipe it out. Diplexers or cavity filters can overcome this problem.

To do the antenna job properly, you would be well advised to invest in good rugged rotators to begin with. It's too late to consider adding a small dish or more yagis at some future time if your original decision was a little on the light side. A proven, reliable computer tracking system and a set of high gain antennas with low-noise, high gain preamplifiers at the feed points will fill the bill nicely. That's the ultimate. That will get you there. Anything left out of that list will make it that much more difficult. You will see it written that you can do without this, or without that; but the facts are that any compromise will be detrimental to your station performance and you'll only have yourself to blame. No good blaming AMSAT, the weather, or the neighbour's cat. If you intend to get a station together for the high orbiters, make "no-compromise" your watchword and you will not go wrong.

Apart from the core transceiver, cost blow-out can be alleviated by home brewing. You can home brew antennas and many operators do, particularly in the microwave area. You can make your own pre-amps, diplexers, polarity switchers, cavity resonators, even dishes and down-converters, and many operators do. If you have experience with a headband magnifier and soldering iron you can modify surplus MDS and satellite TV LNAs and down-converters. You can even—with engineering skill, a workshop and a good junkyard close handy—produce a very effective AZ/EL rotator system. Most serious EME-ers do, as they are apt to be dealing with much larger antennas be they dishes or Yagis. So, it can be done. Whether you build, buy or plunder is of little consequence, the main point is that you should do one or the other and not compromise by leaving out some essential item. Plan ahead now. You have plenty of time to put together an excellent station ready for P3E and Eagle.

Remember, you don't need to aim to make use of every feature that the new birds will offer. I don't know of anyone who's ever done that. If you can muster 2 m/70 cm SSB gear and a tracking antenna system as above there will be transponder modes to suit you and they will open up almost hemisphere-wide footprints to your station.

If your experience runs to microwaves, there will be modes that tie together 70 cm, 23 cm and 13 cm into transponder combinations that will whet your appetite. Small parabolic dishes and multi-band patch feeds were becoming the industry standard before AO-40 expired.

While unusual, patch feeds are quite simple devices and are well within the capabilities of the home constructor. Home brewers did nearly all of the development of these antennas and the designs proved to be reliable and repeatable. In the last days of Oscar-40, they quickly began to supplant more traditional dish feeds. Satellite TV dishes of two, three and four metres diameter are relatively cheap and often available second hand. Many stations I contacted on AO-40 were using such discarded equipment, as was I, and even quite small MDS dishes of one or two metres diameter can be used on the higher frequencies like 2.4 GHz and above.

Don't be frightened of microwaves. They don't bite. You just need to get used to doing stuff that looks more like plumbing than electronics in some cases. There is plenty of help available in the pages of AMSAT publications and on the World Wide Web. The AMSAT-NA site is a mine of useful information, as are other AMSAT sites. If you have cut your teeth on the LEOs, now is a great time to consider upgrading your station for the forthcoming HEOs. Your new "Oscar" ground station will be useful in other areas too. If you do it right you will have the basis of a fine weak-signal station for terrestrial DX or meteor scatter. Aircraft enhancement is another area open to AMSAT-ers (and vice-versa). Hearing your own moon echoes will be drawing a rather long bow but some fully equipped Oscar-class stations can and do work the "big-gun" moon-bouncers.

Next month

This has been a general introduction to the subject. In future issues I will get together some more specific information on each element needed to upgrade your station for the HEOs; beginning with the most important: ***The antenna system.*** How much antenna gain do you need? Positioning the pre-amp for the best noise figure. What is circular polarisation, how important is it and do you really need to provide right to left hand switching? What kind of co-ax to use? Diplexers and cavity resonant filters. Elevation rotators, do you need them? Flip-over mode, is it worth the trouble? Tracking software and Doppler shift compensation.

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Robin Harwood VK7RH

Feverish activity

The World Cup is over and billions of viewers watched the 32 teams fight it out till 9th July, when two European neighbours fought out the final in Berlin. Although there were plenty of reports on the matches, there were few live descriptions of the matches on shortwave, particularly in English. Internet streaming also was absent. Radio Netherlands did provide commentary from their domestic service of matches involving Holland, plus the World Cup final between Italy and France.

As reported earlier, Radio Slovakia International from Bratislava did indeed switch off their shortwave senders on 30th June. Programming can now be found on the Net and on an obscure satellite platform. Funding for the continuation of some language sections did pass the US House of Representatives but became bogged down in the Senate. It is unclear whether the programming has been reprieved.

My faithful Icom R70 finally died and I am left with the Yaesu FRG 7700.

A friend has promised he will look at the moribund set. Anyway, propagation has been extremely disappointing with the MUF in the evening slipping as low as 7 MHz.

North Korea launched seven missiles and immediately created tension in the East Asian region. A clandestine station has been heard within the 25-metre band allocation. It is speculated that the senders are from Taiwan and the programming is aimed at the release of Japanese and Korean citizens who were illegally abducted by North Korean agents. After years of denial, the North Koreans eventually admitted to Japan, they had indeed done so and a few were released but these ceased when tensions escalated.

In June, a Chinese broadcasting station appeared within the exclusive 20 metre amateur allocation, first on 14260, then 14180 and finally on 14310 from 1100 to 1400. It is believed to have been a jammer against a religious station from Taiwan and the program was a relay from the Chinese National Radio (CNR1). There was no sign of the Taiwanese signal, leading to speculation that it was a harmonic from 40 meters, where the Taiwanese transmitter is known to operate.

Bob Padula has just advised me that he has started "Australian DX Report" from WWCR on 9985 at 0945 to 1000 on Tuesdays. It apparently is a repeat of an earlier release on 5070 at 0200 Sundays.

More fever!

June was a difficult month for me as I was fighting a suspected case of whooping cough. I am currently awaiting final test results and hope whatever it is would go away.

Well that is all for this month. Do not forget you can email me your news and comments to vk7rh@wia.org.au .

73 de VK7RH

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Got something to say about amateur radio?

Perhaps you have had a contest adventure?

Maybe an organised DXpedition or just off by yourself to an out of the way place, or perhaps an unusual not-out-of-the-way place?

A real IOTA or even domestic 'IOTA' adventure, Pinchgut or Popes Eye perhaps?

Or you have devised an antenna that doesn't offend the body corporate?

Perhaps you have a historical record or story?

You built a homebrew whatever, or put together a kit or have a suitcase set you use in the park?

You might even disagree with some facet of the activity?

Share it!

Tell Amateur Radio. We always welcome suitable material.

In the first instance send the editor a short synopsis and he'll put you on the right track (see page 1)

ALARA

Christine Taylor VK5CTY

Prepare for the Contests

This month should be a busy one for us all. The Remembrance Day Contest is in the middle of the month and the ALARA Contest is at the end. So this month is the time to ensure that your equipment is all ready and working well.

We hope there will be many Foundation Licensees involved this year, and hopefully some of the YL Foundation calls will be among them.

The two Contests are different in their arrangements so make a good contrast to each other.

In the Remembrance Day Contest you may not make a repeat HF contact with the same station unless it is on a different band. In the ALARA Contest you may make repeat contacts with the same station as long as there is at least one hour between contacts.

In the Remembrance Day Contest, the emphasis is on the largest number of contacts you can make in the 24 hours and you are scoring for your state as well as for yourself. By contrast, in the ALARA Contest the emphasis is on meeting friends and having a chat although, of course you want to make as large a score as possible, at the same time but not at the expense of time to chat.

The ALARA Contest runs for 36 hours, rather than 24 so we have a better chance of 'meeting' on 80 metres on two evenings.

Please do have a go in both Contests. Everyone will be helpful and encouraging.

Remembrance Day Contest is on 13th – 14th August and the ALARA Contest is on 27th – 28th August 2006.

Travellers from the south move north

The winter months are the months when southerners go north to escape the cold. If you are already a Northerner, please keep an ear on your repeaters for these visitors

Most amateurs carry 2-metres or 70-cm rigs in their cars so they can contact the locals. A friendly voice is always welcome.

Please do not ignore a visitor. They may need some help to find a particular place or they may be interested in hearing about your local beauty spots or places of special interest.

Some travellers do a lot of homework about the places they are going to see, but some wait until they arrive to discover what is worth seeing.

This year, with so many new Foundation licensees, there may be some strange and interesting calls to be heard. Some new callsigns to add to your list.

Remember, too, if these contacts are with ALARA members they can qualify for the ALARA Award. Ten VK contacts from five call areas are all it needs to apply for this very attractive Award.

A traveller's tale

Maria VK5BMT and OM Keith VK5MT were somewhere in the wilds of Northern Australia at the time they knew their daughter in Sydney was due to make them grandparents for the first time.

However, as we all know, communication with mobile phones is not the same everywhere, but they were determined to hear the news as soon as possible.

They covered themselves from head to foot with mosquito netting before they climbed a hill carrying pole antenna, lantern, digital camera, cable and phone. They were thrilled to lock onto a Telstra announcement that a baby boy had arrived safely. When they were offered the option to return the call they did so and were delighted to be able to talk to Mary direct – for a few minutes only – before the signal dropped out.

A very different and exciting way to hear of the arrival of your first grandchild. Congratulations to all concerned.

Foundation callers on Monday nights

Those on the Monday night Net, on about 3.578, (the preferred frequency at the moment as there is a heterodyne on 3.580) were delighted to have Pam VK4FADD call in one night and equally delighted to hear the callsign VK5FJAY (for the FJ Holden!) used by a familiar voice.

Jenny has been a regular on the Monday Nets under her OM Kevin's callsign VK5AKZ, but last Monday she called in with her own. Congratulations Jenny – that makes OM, YL and two Harmonics all with callsigns! Fortunately they do not all live in the same household!

The YL Nets

Propagation has not been good recently on 20 metres so the 222 Net has not had many people calling in. However, the regulars were pleased to hear June VK4SJ one Monday afternoon. June has been missing for a few months but when she called into the Net she was on her way to Alice Springs with her son. Maria has also managed to make contact once or twice, to say "Hello" to everyone.

Elizabeth VE7YL can usually be heard by someone in VK or ZL but few other DX callsigns are heard.

Hopefully we are at the bottom of the sunspot cycle this year, so propagation should improve.

If you are free on a Monday afternoon, somewhere round 0530 to 0600 Zulu, tune up to 14.222 MHz. There will be some YLs to talk to. Gwen VK3DYL and Dave ZL1AMN take it in turn to run the Net but you can be sure someone will be there.

There are several Echolink Nets used regularly by YLs, the most popular one being on Sunday mornings. If you have Echolink, listen around I am sure you will find them and be pleased that you did.

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Contests

Ian Godsil VK3JS
Contests Manager

Contest Calendar August – October 2006

Aug	5	QRP Day Contest	(CW/SSB/FM/PSK31)
	5	Waitakere (NZART) Sprint	(CW)
	5	TARA Grid Dip	(PSK/RTTY)
	5/6	10-10 Intl QSO Party	(SSB)
	12/13	Remembrance Day Contest	(CW/SSB/FM)
	19/20	Keymen's Club of Japan Contest	(CW)
	19/20	SEANET Contest	(CW/SSB)
	26	ALARA Contest	(CW/SSB)
	26/27	TOEC WW Grid Contest	(CW)
	26/27	YO DX HF Contest	(CW/SSB)
Sep	2	Russian Radio RTTY Contest	(RTTY)
	2/3	All Asian DX Contest	(SSB)
	9/10	Worked All Europe DX Contest	(SSB)
	23/24	CQ WW RTTY DX Contest	(RTTY)
	23	Westlakes Cup	(SSB/DSB/AM)
Oct	7/8	PSK31 Rumble	(PSK)
	7/8	Oceania DX Contest	(SSB)
	14/15	Oceania DX Contest	(CW)
	9	10-10 International Day Sprint	(All Modes)
	14/15	JARTS WW RTTY Contest	(RTTY)
	14	Asia-Pacific Sprint Contest	(CW)
	15	RSGB 21/28 MHz Contest	(CW)
	23	RAOTC QSO Party	(CW/SSB/FM)
	28/29	CQ WW DX Contest	(SSB)

Greetings to all Readers.

A few weeks ago some of you were kind enough to write encouraging words about this column. In return, I say thank you very much. One never knows who reads material, especially when it is a regular column. However, please be assured that your support is much appreciated.

A couple of things this month – further thoughts for newcomers to the business of contesting, and a welcome return of a previous experiment in Australian contesting.

Hope that there will be something there for many of you.

Contest loggers – again!

Some four or five years ago I was roundly attacked by some VK contesters for suggesting that there were many Australian AR operators who did not use computers in their shacks, so therefore our contests should continue to embrace pen and paper scoring methods.

At the time I was disturbed by these taunts, but I still believe that my summation of the situation at the time was right.

However, we all know that in today's fast-paced world, a few years can bring widespread changes. Today I would say that there are still operators of senior years who continue to work with the traditional methods, but I would concede that their numbers are quite thin, compared to those of all age groups now using computers in one way or another in their shacks. Of course, it is understood that younger operators use computers for almost everything, and this is where logging programs enter the field.

Some of this change has come about because of the availability of comprehensive loggers for the DX contests, and more recently by some specifically for our RD Contest.

In this context, I would like to pay an historical tribute to Geoff Hudson VK3VR who produced an excellent RD logging program in the 1990s. It did everything from sending CW to total scoring of all categories of entrants. It was excellent! I know I used it for several years and it really was my own introduction to logging by computer. This helped me to tackle the "big" programs for the DX events.

2004 and particularly last year saw the emergence of several programs for VK contests – Alan Shannon VK4SN produced a marvellous thing for the VK/trans-Tasman Contests, and it has proven very worthy, as long as you remember that this is a post-contest logger, not one

designed to enter data as you go. The reason for this is simply that there are certain variables in the rules of the VK/trans-Tasman, and it can be useful to enter things quietly after the event.

2005 saw three loggers for the RD Contest. All three did the job well, but one of them I found to be less "intuitive" to operate than the other two (you know those people who say that if you have to read the handbook, it ain't a good product?).

John Drew VK5DJ's program proved to be very popular in last year's RD and I heard of several operators who said that they took part after an absence of many years simply because a logging program was now available. Most of these chaps were not younger men, but older people who have come to use computers for so much of their work activities. John told me some weeks ago that he will have his program updated for this year, so it is probably ready by now. So too have James McBride VK6FJA and Mike Subocz VK3AVV (VKCL Log) produced most comprehensive offerings. Please check the URLs below for these programs.

VKCL Log

Whilst I have the greatest admiration for all of the authors of these aids to modern contesting, I cannot refrain from showing a strong interest in the VKCL Log program.

What attracts me to VK3AVV Mike Subocz's program is the way that he has adapted the modules to embrace almost all of our VK contests. Recently I had the privilege and pleasure of helping Mike with the Beta testing of VKCL v. 2.3.

Page layout is the same for each contest and information can be entered by mouse or by key presses – I strongly recommend the latter; it is just too fiddly to be reaching for a mouse whilst concentrating on exchange information.

However, Mike has not restricted his logger just to Australian contests. He has included some of the popular DX events as well, thus making this the most comprehensive Australian contest logging program available. Here is one program you can use for QRP Day, RD and ALARA (all in August), as well as the Oceania DX in October, Spring and Summer Field Days and CQ WW at other times of the year.

Log output is in comma-delimited format (.csv) for emailing, as well as standard text (.txt) for keeping hard copy. As yet, Cabrillo format is not supported, so that may slightly restrict its use in DX events at present.

Mike tells me that he is considering adding a radio-controlling interface, something offered by the big DX loggers. This would be marvellous, so that band changes made on the screen would be transferred to the radio (if you have a suitable radio that has this facility).

General Comments

1 There are those who say that we have too many contests. As a bald statement, they are right if you think that there are about 12 contests every weekend somewhere in the world. In addition, it can be argued that this shows that contesting is popular with operators and gives them a range of events relevant to their home areas as well as worldwide.

2. I do think that there is need for discussion by WIA about the allocation of Contest Sub-bands in Australia and I intend to present a paper to WIA Executive about this soon. Any comments from you, the band users, will be most welcome.

3. Computer logging is well and truly a fact of life in the contesting world, so I strongly urge all of you to familiarise yourselves with its use by trying one of the programs listed above. Do not think that you must leave it until a particular contest comes round, but load it up and set it up and practise with the program repeatedly until you are familiar with its operation. This is not hard to do and will pay you handsome dividends in the actual event because you will not be worrying about what to do to log the exchange. The good old rule "Practise, practise, practise" is a tried and true rule for most things in Life. Please do not ignore it then wonder why things did not go so well.

4. I referred in a previous column to the idea that a logging program sending CW is not considered "in the spirit of the contest". I mention it again now because it is a feature of the DX loggers, it is used widely by every CW contester and it does make for faster logging. For those serious DX contesters, the hourly scoring rate is important, so any feature that helps increase this rate will be used.

We have to get past this idea that the operator is not in physical control of the station during the contest exchange. We all know that ideas are bent every day of our lives, so if you want to justify auto CW sending, then you say to yourself that you have to press keys and type a callsign, so you are in physical control of your station. I suggest that we must "move on" as regards this issue, because I can assure you that using a logger and operating a key separately means that you must become very good at typing with your left hand whilst sending with your right (or vice versa for left-handers). Again, this is not impossible and CAN be achieved with "practice, practice, practice".

I do not raise this to cause dissention, even though I know that for some people it is an issue. It makes common sense to take advantage of what is on offer. Also, the argument that CW is not necessary any more so who cares is not relevant either, as there will be many dedicated CW operators around for some time yet. Only when we all die out will there be a place for debates about CW in contests.

Summary

I suggest that you download the above programs and try them. Most people find that there is much to admire about them all, but that one in particular will suit YOU. All of the above are designed for Australian use, but VKCL Log embraces the widest range of VK contests.

The URLs for these programs are –

VKCL Log	http://web.aanet.com/mnds
VK5DJ RD Logger	http://vk5dj.mountgambier.org/Amateur_radio.html
VK6FJA WinRD+	http://www.rjmb.net/index.htm

Something different

1. Some years ago, a group in VK7 decided to promote a contest called the Wadda Cup. For whatever reason(s), this never worked very well – I suspect because of lack of administrative cohesion.

You may be interested to know that Paul Linsley and the Westlakes AR Club have decided to reinvent this contest under the name 'Westlakes Cup' and the rules are below.

Please add this to your list of Australian events. It is phone only, so should appeal to most HF operators interested in contests. The Club

will welcome as much support for this new event as possible, and Paul says that he will make every effort to get results out quickly.

2. This year marks the 30th Anniversary of the Radio Amateurs Old Timers' Club. To celebrate, the Club has decided to hold a QSO Party and all AR operators are invited to join in. This will be a two-hour event on a Saturday afternoon in October, so please see the rules below and note it in your diaries.

The term "Old Timers" does not mean that the operators are old fogies who can only talk in terms of vacuum tubes and Morse Code. It means that they are operators who have had some years of experience on the air, joined by a bond not only of AR, but also of common interests and activities. Come and join us on this once-only occasion, please.

Finally

This is my last column with you. Senior years are beginning to make themselves felt in the family and the time has come to back off somewhat.

I hope that my writings have been of help to some of you and that if you hear me on the air you will call me. I shall still be active with the QRP Club and Radio Amateurs Old Timers' Club and shall be making every effort to get going on PSK as well as continuing my interest in the Linux OS.

Thank you all for your comments over the years. If you can help the AR community and WIA in this contesting area, please contact Trevor Quick VK5ATQ (vk5atq@wia.org.au) and he will be very happy to talk to you.

Good AR, good contesting and 73,

Ian Godsil VK3JS

Rules: Westlakes Cup

Paul Linsley VK2BPL,
Contest Manager

Date:	Saturday, 23rd September, 2006
Time:	1030 – 1130 UTC (20:30 - 21:30hrs EST)
Band:	3.545 - 3.620 MHz
Categories:	Single Operator; Club; SWL
Modes:	SSB, DSB, AM
Max Power Limit:	100 Watts Standard and Advanced Licence Holders 10 Watts Foundation Licence Holders.

Rules:

All Stations shall call 'CQ Westlakes Cup'.

Exchange for points shall be a signal report and the operator's name.

After the contact is made and reports exchanged, the station that called 'CQ' must QSY at least 5 kHz from the frequency before calling again. There will be no 'sitting' on a frequency and working a 'pile up'.

You must QSY after each contact.

Valid Contacts:

For this, the initial running of the Contest, only VK stations may be worked. The Contest may expand to ZL, P2 and other South Pacific neighbours in the future.

Points A:

All contacts score one point.

There shall be a BONUS station operating in the Contest. The BONUS station is the station that holds the Cup from the previous year's Contest.

This station shall be worth one point for the QSO plus three bonus points and may be worked twice in the Contest, once each half hour – if you can find the mischievous little devil.

This year, 2006, the BONUS station will be VK2BPL/BONUS.

Points B:

Every Amateur Radio Club that takes part in the Contest will be worth two points. Club stations taking part will sign /CLUB after their call eg. VK2.../CLUB and may be worked once only. WIA stations such as VK2WI, VK4WIT, VK2BWI etc., will qualify under the same scoring system as Amateur Radio Clubs and must identify themselves with "/CLUB" after the Callsign.

Points C:

Every station that does not fall into the BONUS category listed above shall be worth one point per QSO and may be worked only once during the Contest.

Points D: SWLs

SWLs must record the callsigns and information of both stations in the QSO and will claim the same points as transmitting stations. For example, if the SWL hears the BONUS station he may claim one point plus three bonus points. If he hears a Radio Club Station, he can claim two points for the QSO.

Contest Procedure:

At 1015 UTC (2015 hrs EST) on 3.585 MHz +/- QRM, the BONUS station will make an announcement outlining the basic rules of the Contest. If there are any last-minute questions to be asked, they will be answered at this stage.

At two minutes prior to the beginning of the Contest, the BONUS station will make an announcement to the effect that the Contest will begin in two minutes.

At the completion of the Contest, the BONUS station will call in all stations that wish to declare their scores for the Contest. The call-in will be on 3.585 MHz +/- QRM and will start from the lowest scoring stations (eg 10 pts) up to the top scorers in the Contest.

During this process, additional stations may be seconded from the group on frequency to take call backs from any region which the BONUS station thinks his signal may not be covering well. Such station/s may receive a special certificate in recognition of their efforts.

The object of this 'Check In' after the Contest is that stations may get an idea of the Contest results on the same night as the Contest takes place. Places will only be confirmed after the Contest Manager has received and checked the logs.

Contest Logs:

Logs submitted shall contain the following information:

Cover Sheet

Call Sign:	
Name of Licensee:	
Address of Licensee:	
E-Mail Address of Licensee: (optional)	
Points Claimed including BONUS Points	

Log Details

Time: Local or UTC	
Call Worked:	
Signal Strength of station worked and name of operator:	
Signal Strength given to station worked:	

Declaration:

"I declare that I have operated in accordance with the rules and spirit of the Contest and in compliance with my licence conditions"

Awards:

An inscribed Cup will be awarded to the station with the Highest Points Score. The Cup will be inscribed with the Callsign and details of the winner and will be retained by the winner of the Contest.

The station that gains possession of this Cup will become the BONUS station for the next year's Contest. The Contest Manager retains the right to decide to change the rules of the next year's Contest.

Certificates will be awarded to the first, second and third place-getters in the Contest.

Additional Certificates may be issued to those who, in the opinion of the Contest Manager of Westlakes Amateur Radio Club, have contributed, maintained or attained prominence in any particular area of expertise or excellence.

Logs:

Logs should be sent to:
The Contest Manager
Westlakes Amateur Radio Club
PO Box 3001,
TERALBA, NSW 2284
Email logs may be sent to:
vk2bpl@hotmail.com

The closing date for the receipt of logs will be midnight EST on ***31st October, 2006.***

Results can be expected to be processed and posted on the Westlakes Amateur Radio Club Website and distributed to WIA News outlets within one week of the closing date for entries. The Contest Manager's decisions with regard to logs and positions in the Contest will be final and no correspondence will be entered into regarding the results.

Good Luck to you all.

Paul P29PL/VK2BPL

RAOTC 30th Anniversary QSO party

Date:	Saturday, 21 October 2006.
Open	to all Amateur Radio operators
Bands:	160, 80, 40, 20, 15, 10, 6 and 2 m and 70 cm
Category:	Single Operator
Modes:	CW, SSB, FM
Times:	0600 – 0800 UTC (1600 – 1800 EST)
Calling:	"CQ OT"
Scoring:	A valid QSO requires exchange of call sign and name for all operators, plus member number for RAOTC members. 10 points per QSO with non-RAOTC members 20 points per QSO with any RAOTC member. 50 points per QSO with either VK6OTN or VK3OTN. Stations may be worked on more than one band, each contact scoring one point.
Award:	A Certificate will be available to any operator who scores a total of 250 points or more. Endorsements will be given for operators who score 200 points or more on both Phone and CW separately.
Send Logs to:	Secretary, RAOTC, PO Box 107, Mentone, 3194;
or via email to:	vk3js@bigpond.com by 31st October to claim a certificate.

DXCC Standings July 2006

(335 entities)(4th.July 2006)

Mal Johnson VK6LC

Callsign	Countries
DXCC Ex.(335)Phone	
VK5MS	335/389
VK4LC	335/382
VE6VK	335/372
VK4UA	335/370
VK5WO	335/368
VK6LK	335/360
VK3AMK	335/354
VK3QI	335/349
VK3AKK	335/348
VK2FGI	335/341
VK3DYL	335/341
VK3EW	335/341
VK3SX	335/341
Honour Roll (326) Phone	
VK6HD	334/360
VK6NE	333/349
VK2AVZ	333/344
VK1ZL	333/339
VK2DEJ	333/339
VK3TZ	332/336
CT1EEN	332/336
VK3OT	331/345
VK4OH	330/337
VK6APK	330/335
VK4AAR	330/334
VK3CSR	329/338
VK3YJ	327/333
VK5FV	326/329
VK4SJ	326/327
General listing-Phone	
VK3EUZ	325/326
EA3AKN	323/331
VK2UK	322/327
VK6ABS	322/000
VK4LV	319/321
VK1TX	319/000
VK6RO	312/319
VK6LC	312/314
VK3JI	310/325
DL2AWG	309/000
VR2XMT	309/000
PY2DBU	308/315
VK4ICU	303/305
VK6DY	297/301
JA3EY	296/300
VK4EJ	296/298
DL1TC	294/295
VK3DU	292/301
VK2CSZ	290/293
VK3KE	289/292
VK2HV	288/000
VK4BAY	287/290
VK2CA	287/000
VK7TS	285/286
9V1RH	283/285
VK6ANC	282/286
VK3JMB	275/000
VK3DP	274/277
VK3UY	264/266
JA7MGP	260/000
VK2XH	257/000
DL3ASJ	256/000
VK8NSB	255/000
VK3CIM	254/258
VK8DK	253/254
VK2FHN	243/000

Callsign	Countries
General listing-Phone	
VK4AO	240/000
VK8KTC	231/233
VK4DMP	227/228
DL6MRS	226/000
UA6LDD	225/226
VK8AM	225/000
VK2AU	210/000
VK3DVT	206/209
VK6RZ	198/201
VK7JAB	198/000
VK2EO	195/000
G0VXX	184/000
VK6EH	170/000
VK3PA	178/179
VK2EJK	176/000
9A2KL	172/175
VK2BQS	166/169
DL6USA	162/000
VK5EMI	160/000
VK7LUV	160/000
VK4ARB	159/160
JA6KTY	156/000
VK6HZ	151/000
VK2SPS	143/145
VK2QV	141/000
VK3JXO	141/000
VK3DQ	138/152
VK8LC	137/000
OK1ZSV	136/000
DL9UBF	165/000
SV1XV	130/131
VK4FNQ	134/000
VK4AN	133/136
WA5UA	128/000
VK4VIS	127/129
VK5ATU	126/128
VK2IRP	125/101
CU3AAT	125/000
SV1UT	123/000
VK2VZQ	122/000
VK4EZ	119/125
VK5UO	112/115
VK3CML	109/000
AX4EJ	105/000
SV1EOS	105/000
VK9RS	104/000
3W2LC	102/000
SV1FTY	102/000
SV1GYG	102/000
VK6ISL	102/000
HS1NGR	101/000
VK5JAZ	100/000
VK6ZAI	100/000
VK2RO	103/105
DXCC Ex.(335)CW	
Postion Vacant	
Honour Roll(326)CW	
VK6HD	334/355
VK3QI	334/346
VK5WO	333/349
VE6VK	330357
General listing-CW	
VK6RZ	319/324
VK3AKK	312/317
VK3KS	307/335
VK4LV	299/306

Callsign	Countries
General listing-CW	
CT1EEN	294/000
VK4ICU	291/000
VK3JI	274/299
VK6MK	249/252
VK2CWS	245/247
VK3DP	245/247
VK3DQ	243/270
VK3CIM	235/236
RD3AF	233/000
VK7TS	219/000
DL7PA	203/000
VK6RO	204/206
VK3KE	200/000
PY2DBU	179/181
VK4CXQ	174/000
VK5UO	171/172
SP9ADV	168/171
DK6AP	168/000
VK4AN	167/169
DL6USA	165/000
VK4UA	151/164
VK4AAR	144/146
VK8AM	138/000
N0TM	135/000
DL1TC	133/000
VK7DQ	131/132
VK2AR	130/133
DL6UGF	126/000
DJ4BG	121/000
VK5BWW	110/113
SM6GZN	110/111
T94VT	108/000
9A2KL	103/000
DL3GDS	102/000
DXCC Ex.(335)Open	
VK4LC	335/382
VE6VK	335/380
VK4UA	335/372
VK5WO	335/372
VK6HD	335/362
VK3AMK	335/354
VK3QI	335/350
VK3AKK	335/348
VK3EW	335/341
Honour Roll (326) Open	
VK3OT	334/348
VK2UK	334/339
VK2AVZ	333/344
CT1EEN	333/337
VK3UY	333/336
VK4AAR	332/336
PY2DBU	328/343
General listing-Open	
VK4LV	323/331
VK6RZ	325/331
VK3JI	322/351
VK6RO	324/331
VK4DV	315/330
VK6LC	313/315
VK4ICU	311/313
VR2XMT	309/000
DL1TC	302/303
VK4AN	300/305
VK3KE	297/300
VK7TS	295/296
PY2DBU	294/298

Callsign	Countries
General listing-Open	
VK2HV	289/000
VK3CIM	284/288
VK6ANC	284/288
9A2KL	280/283
UA6LDD	279/280
VK3JMB	277/000
VK6MK	256/259
VK8NSB	256/000
VK3DQ	255/284
VK5UO	251/255
VK2CWS	251/253
VK2FHN	247/000
VK4DA	237/239
VK8AM	236/000
DL9UBF	206/208
DL6USA	201/000
SP9ADV	200/203
VK3PA	187/188
VK2BQS	183/186
VK4CXQ	179/000
DL6UGF	161/000
VK5ATU	158/160
VK3VB	153/155
VK2AR	152/156
VK6HZ	151/000
VK3JXO	146/000
VK2SPS	144/145
SV1XV	142/144
VK4EZ	140/147
ON9MCR	129/140
ON5SPA	127/000
VK3OZ	126/127
VK7CQ	123/125
VK5DC	117/118
N0MSB	117/000
VK9RS	111/000
VK2AJE	109/000
UA0IGV	103/000
VK2AWD	102/106
VK5GX	100/101
DL1APX	100/000
RA3BZ	100/000
VK1AI	100/000
General listing-Digital	
VK3EBP	253/255
VK3AMK	200/202
VK3KE	183/000
VK2BQS	126/128
DL4ARJ	120/000
ON5SPA	111/000
CT1EEN	110/000
VK5RY	100/102
Gen-listing 2m. Open	
Postion Vacant	
Gen-listing 6m. Open	
VR2XMT	154/000
VK4FNQ	141/000
CT1EEN	110/000
VK4ABW	109/000
VK6JQ	103/104
VK4CXQ	101/000
Gen-listing-Satellite	
VR2XMT	112/114
VK3XDQ	106/000
General listing-SWL	
DE2DAD	100/000

	Callsign	2m	6m	10m	12m	15m	17m	20m	30m	40m	80m	160m	Bands	Total	Average
1	VK6HD			303	256	320	286	329	295	328	312	238	9	2667	296
2	VK3QI			285	271	298	278	333	297	288	232	105	9	2387	265
3	VK3EW			278	231	304	254	328	137	292	284	106	9	2214	246
4	CT1EEN		110	294	290	324	305	328	146	243	163		9	2203	245
5	VK5WO			155		153		252	109	225	134		6	1028	171
6	PY2DBU			198	125	185	103	279	102				6	992	165
7	VK6LC			119		153		306		175	125		5	878	176
8	9V1RH				141	264	119	222		129			5	875	175
9	VK3PA			133		139		253		136	187		5	848	170
10	VK2CA			162	101	203	108	205					5	779	156
11	VK4AN			217		233		272					3	722	241
12	XR2XMT		154			127	162	172					4	615	154
13	VK3DYL			114		168		295					3	577	192
14	VK3KE			108		153		268					3	529	176
15	VK2DEJ					114		305		101			3	520	173
16	WA5UA			102		106		128					3	336	112
	Averaged		110	190	202	203	208	282	181	227	205	150	6	1418	210

Awards information and downloadable files are available on WIA website http://www.wia.org.au/awards/ or email to: awards@wia.org.au

Malcolm K. Johnson VK6LC, WIA Awards Manager Postal address: PO Box 196 Cannington. 6987.Western Australia. email: awards@wia.org.au, website: http://www.wia.org.au/awards/

New DXCC entity: Republic of Montenegro

Mal Johnson VK6LC

The WIA formally announces the acceptance of the Republic of Montenegro as the 336th. DXCC entity to our DXCC Programs.

The United Nations admitted the Republic of Montenegro as its 192nd member on 28th. June 2006, and that action automatically makes the tiny Balkan nation a new DXCC entity.

The WIA has added The Republic of Montenegro to the DXCC Programs.

WIA DXCC formal documents and website data will take some time to update.

Claims for DXCC credit will be accepted immediately from current Montenegrin radio amateurs using their YU, YT, YZ, 4O and 4N – prefix call signs until the International Telecommunication Union designates a new call sign block for the new country.

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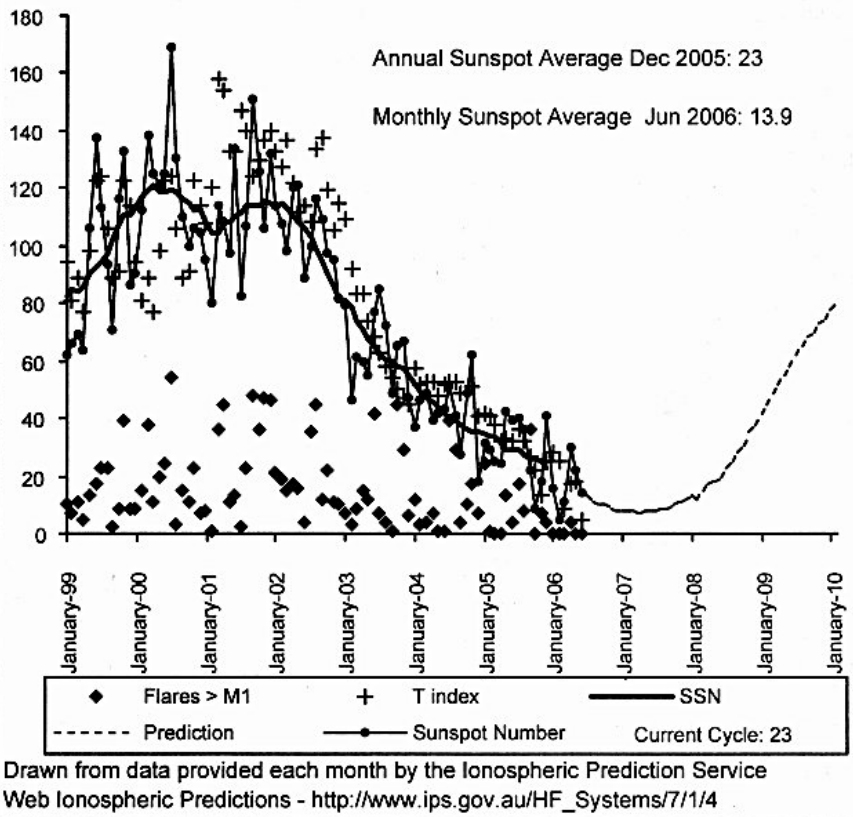
HF Propagation Predictions

– go to **http://www.ips.gov.au/HF_Systems/7/1/4**

for up-to-date information.

You will need Lat/Long of both ends of circuit. Type .>Find latitude/longitude< into your search engine. Strangely, a good, simple, quick site for location is http://www.astro.com/atlas

Sunspot Numbers



Drawn from data provided each month by the Ionospheric Prediction Service
Web Ionospheric Predictions - http://www.ips.gov.au/HF_Systems/7/1/4

DX News & Views

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Those were the days!

The experts tell us that we still have not yet reached the bottom of the sunspot cycle, but I must admit that conditions seem to be worse now than at any time that I can remember. If the same experts are right then in a few years we can look forward to conditions that will be "sparkling"; similar to the conditions that we enjoyed in 1947, when it was possible to work the world just running a few watts into a simple antenna on 28 MHz.

How things have changed. In those days a STABLE VFO was a rarity, with the majority of stations running crystal-controlled transmitters and calling CQ, announcing that they would be tuning up from, say 28025 to 28200 for calls! No TVI in those days! The main discussion at the radio club meetings was how to stabilise 807s that were notorious for parasitic oscillations, and how to improve receiver selectivity with the war surplus "command sets" that were becoming available. THE method of "accurately" measuring frequency was the war surplus BC221 – it was many years before we had the luxury of digital readout.

Although conditions may be down, we now have quite a number of factors in our favour. The quality of the receivers we now use, with DSP, are far superior for resolving weak dx signals to the ones we acquired or built over 50 years ago. The gradual acceptance of SSB was a major step forward for voice communication. Similarly antennas have improved with a larger number of beams now in use. The quality of feed lines has also dramatically improved. The surplus coax was nothing like the quality of the coax we use today.

Another facility that we also have, which I believe is not used as much as it could be, is the IARU Beacon chain. If the band appears dead CHECK THE BEACONS (all the details are in the WIA Callbook). It is surprising how often a path is open to a DX location. Maybe everyone is doing just what you are – listening – so call CQ! It can be very productive!

ZK1CG, reports as of June 1 2006, ZK1 stations will finally change to the new E51 prefix in the Cook Islands. On August 15 2004 ITU Operational Bulletin No. 818 stated "Following a request from New Zealand, the International Call Sign Series E5A-E5Z, in accordance with the provisions of No. 19.33 of the Radio Regulations, has been provisionally allocated to New Zealand for exclusive use by the Cook Islands (formerly ZK1)." Don't forget to add the prefix E5 to your logging programs. ZK1CG plans to be QRV with his new call E51CG on June 1st and later with E51USA.

The VI9NI team on Norfolk Island have been very active on all bands in spite of major problems at the beginning of their operation with gale force winds bringing down their antennas.

Neil VK6NE has recently compiled a "most wanted list" from VK DXers – the results of which are tabulated below:

Position	Prefix	Country
Equal 1	3Y/B	Bouvet Island
	PY0/T	Trinidade Island
	VP8/O	S.Orkney Island
Equal 2	VP8/S	S.Sandwich Island
	VP8/G	S.Georgia Island
Equal 3	P5	North Korea
	PY0/P	St Peter & Paul
4	FR/J	Juan de Nova
Equal 5	KP1	Navassa Island
	SV/A	Mount Athos
	3C0	Pagalu Island
	BS7	Scarborough Reef
	CY0	Sable Island
	VU7	Lakshadweep Island
Equal 6	HK0/M	Malpelo Island
	PY0/F	Fernando de Norohna
	VP8/S.S.	S.Shetland Island
	7O	Yemen
Equal 7	CE0/SF	San Felix Island
	S0	Western Sahara
	TY	Benin
	YA	Afghanistan
Equal 8	EP	Iran
	FO/C	Clipperton Island
	1A0	S.M.O. of Malta
	TT8	Chad
Equal 9	4U1ITU	ITU Geneva
	9Q	Congo
	KP5	Desocheo Island
	CE0/JF	Juan de Fernandez
Equal 10	VP6/D	Ducie Island
	3Y/P	Peter 1st Island

It is interesting to see that Peter 1st Island is still in the top ten in spite of the recent operation from there. Likewise TY (they had just under 24,000 QSO's) and S0 (who had just under 30,000 QSO's) have recently been activated with dedicated DXpeditions. Even more surprising was to see Afghanistan at number 7, for T6KBLRM and T6X were very active for at least 6 months and 11 months respectively during 2005. T68G has also operated for 9 months in 2005 and is still active, as recently as the WPX Contest, and will be there until March 2007! Many thanks to Neil for collecting the information, which I am sure readers will find very interesting to compare with the widely circulated lists from North America and Europe.

Now to DXCC news.

Since June, the ARRL DXCC desk has approved the following operations for credit:

T68G, Afghanistan, current operation effective April 2005.

4W6AAB - Timor – Leste Current operation effective May 22, 2006

ZV0F - Fernando de Noronha Operation from March 30 through April 4, 2006

6O0M – Somalia Operation from April 7 through April 24, 2006

S01R - Western Sahara Operation from April 11 through April 21, 2006

YI9NS – Iraq Operation from January 5 through March 28, 2006

YI9HU – Iraq Operation from May 18 through June 5, 2005

HN0Z – Iraq Operation March 27 and 28, 2004. Operation May 29 and 30, 2004

A6/OD5TX - United Arab Emirates Operation from October 5 to November 5, 2005.

TT8WL – Chad November 19, 1996 through March 8, 1997

J5DOT Guinea-Bissau Operation from April 25 through May 5, 2005

The ARRL DXCC Desk has announced DXCC program fees will rise slightly when a new awards fee schedule <http://www.arrl.org/news/stories/2006/05/23/3/

fees-06Jul.html> went into effect July 1. The fee for a basic DXCC application (including certificate and pin for initial applications only, 120 QSO maximum) and for first endorsement applications within a year will increase to US$12 for ARRL members and to US$22 for foreign non-members. Second and subsequent endorsements (120 QSO maximum) within a year will be US$22 for ARRL members and US$32 for foreign non-members. The US$10 fee for a basic DXCC application (120-credit maximum) was established in 1990, and the current overall fee schedule has been in effect since 1998. "It costs us to provide this service," explains ARRL Membership Services Manager Wayne Mills, N7NG. "We don't make any money from DXCC." The cost of other DXCC-related items such as plaques and pins also will go up July 1. Mills advised that DXCC fees would increase further in the years ahead–possibly at two-year intervals - at least to catch up with the Consumer Price Index, which has risen 49 percent since 1990. He estimates the active population of DXCC members at between 15,000 and 18,000.

DXCC Rule Change

Upon request of the Programs and Services Committee (PSC), the DXAC has studied the impact of a change to the DXCC Rules. The rule change will become effective June 15, 2006 at 0001 Z. New text replaces the previously removed DXCC Rule, Section II:

Political Entities, Paragraph c). The new text shall read:

c) The Entity contains a permanent population, is administered by a local government, and is located at least 800 km from its parent. To satisfy the "permanent population" and "administered by a local government" criteria of this subsection, an Entity must be listed on either (a) the U.S. Department of State's list of "Dependencies and Areas of Special Sovereignty" as having a local "Administrative Centre," or (b) the United Nations list of "Non-Self-Governing Territories."

Rule 1c) is intended to recognize entities that are sufficiently separate from their parent for DXCC purposes but do not qualify under Rule 1a) or 1b). The new rule will cause a change to Point 1 status for certain entities. This in turn will reduce the mileage for a first separation for these entities from 800 km to 350 km.

The lists referenced in the text of the rule can be viewed at the following Web sites: the DOS list of Dependencies and Areas of Special Sovereignty at http://www.state.gov/s/inr/rls/10543.htm, and the U.N. list of Non-Self-Governing Territories at http://www.un.org/depts/dpi/decolonization/trust3.htm.

QSOs with any new entity resulting from this rule change will count for credit for the new entity only if the QSOs are made on or after the Start Date for the entity. In no case will QSO's made prior to the date of this notice be considered for credit for any new entity created under this rule. Applications for DXCC award credits resulting from this change will be accepted on or after October 1, 2006.

By now everyone knows that the Republic of Montenegro recently declared independence. This was the result of a national referendum on May 21st, 2006. All international authorities and institutions, as well as the government of the Republic of Serbia, from whom Montenegro separated on June 3, 2006, have recognized the referendum. We now have a new DXCC entity.

The first major Amateur Radio activity from this new DXCC entity will be managed by an International DXpedition Team, which is planned to take place very quickly after DXCC approval has been granted to Montenegro. The DXpedition Organizing Committee consists of: Bob Grimmick N6OX, Hans Blondeel Timmerman PB2T, Martti Laine OH2BH, Dave Sumner K1ZZ, Linda Sumner KA1ZD (YL), Ranko Boca YT6A, Vladan Kecman YT3T, Wayne Mills N7NG and Carsten Esch DL6LAU.

Initial activity from Montenegro will take place on all Amateur Radio bands and all modes, for two to three weeks from several locations along the Adriatic Coast.

Amateur radio operators who feel they are qualified to handle a real pile-up can apply to be part of the 2006 International Team for the DX Festival in Montenegro. The Organizing Committee will allow or reject candidates based on the information provided in their applications (http://www.yu6scg.cg.yu/download/application.txt). As the exact time-frame for the expedition is not yet known, applicants should indicate the weeks that they can be available (July 15 through September 15, 2006).

One object will be to establish an 'All time DXpedition World QSO Record', expected to be well over 200,000 QSO's. With this amount of activity everyone should have an opportunity of working them without too much difficulty.

9Q5 Democratic Republic of Congo. Hopefully, we will soon hear legitimate stations active from here. Four Amateur Radio operators, who have been working in this country for several years, and with government officials, think they may be close to obtaining their licences. Gus SM5DIC (9Q1D), Georges VE2EK (9Q1EK), Phil F5LTB (9Q1TB) and Ghis ON5NT (9Q1NT), have all recently paid $500 to the PTT for their licences. They are now waiting for the government officials to process their paper work. There have been no valid 9Q, 9R or 9S licensed since 2004.

3D2 Rotuma. F4ELJ, F0ELK and F0ELI will use the call 3D2BD from Rotuma (OC-060) from 5th August to 17th August. On their way home they will stop and operate from Suva, Fiji Islands (OC-016), from 18th August to 21st August. QSL via F4ELJ, direct or bureau.

OX Greenland. Dwayne KD4POJ will spend eleven months in Greenland (NA-018) starting on 30th July. He plans to operate as OX3PG on most bands and modes and to participate in contests as work and propagation permit. QSL direct only via WA0SMQ.

V47/DL2AAZ Look for him from 20th July to 10th August on 40/20/15/10 metres on SSB or CW using 100 watts to a dipole antenna. QSL direct or via the bureau to his home call.

5W0TR (K8AQM), 5W0JB (N8CC), 5W0BS (KG8CO), 5W0KI (JF3MYU) and 5W0DW (KT8X), will be active on 160 to 30 metres inclusive on SSB, CW and digital modes from 25th July to 10th August. They also plan to operate in the IOTA Contest. QSL direct or via the bureau to the operator's call.

Special thanks to the authors of *The Daily DX* (W3UR) and *425 Dx News* (I1JQJ) and *QTC* DX PY2AA for information appearing in this month's *DX News & Views*.

For interested readers you can obtain from W3UR a free two-week trial from www.dailydx.com/order.html

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VHF/UHF - an expanding world

David Smith VK3HZ
vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

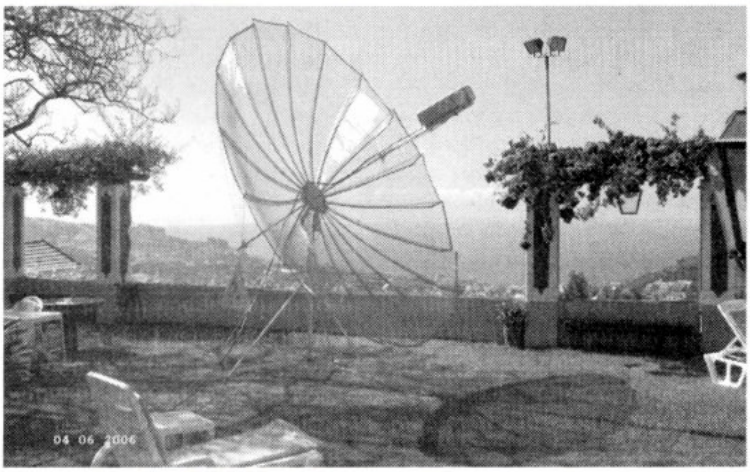
The annual GippsTech conference was well attended by amateurs from around the country. Peter VK3KAI and his band of helpers once again organised a very slickly-run weekend with all events running to plan and suitable diversions organised for the many "other halfs" who attended. The conference presenters covered a wide range of subjects – both theoretical and practical – in the areas of propagation, construction and operation for the VHF/UHF/Microwave bands. By Sunday afternoon, I was exhausted from the effort of absorbing the sheer volume of information presented. The Friday and Saturday night dinners provided good opportunities to meet people and discuss current topics of interest. It's always interesting to meet someone whom you'd previously only spoken to – the shattering of the mental image you had formed of the person is almost audible! So, congratulations to all concerned for another great weekend. To those who have not yet attended a GippsTech conference, I would highly recommend that you make the effort. Get in early with the XYL and reserve that second weekend in July 2007 (July 7 & 8) now.

EME

Congratulations to Doug VK3UM who has used his new dual band (70 cm / 23 cm) feed to reset the VK 23 cm EME distance record. On June 10th, Doug worked Michael CT3/DL1YMK on the island of Madeira - a terrestrial distance of 18,354 km. Of course, the actual radio path is via the moon and the path length does not change much for different stations, so one might ask what is the relevance of the terrestrial distance? To work a station on the other side of the earth via the moon, the antennas at both ends have to be very low to the horizon, and ground noise pickup then causes significant degradation to the signal. Also, apart from some areas of Europe and the USA, EME-capable stations are few and far between and it is hard to find a station at maximum terrestrial distance (particularly for southern VK where the opposite side of the Earth is the mid-Atlantic Ocean – not many EME stations there!). Fortunately, Michael DL1YMK had organised an EME DXpedition to Madeira. Michael's equipment consisted of an Icom IC-910H with 500 watt PA's on 70 cm and 23 cm feeding a 4.1 m fold-up preloaded/stressed dish. After several attempts, Doug and Michael successfully worked on 70 cm where the small dish size was definitely marginal. Then, again after several attempts, they succeeded on 23 cm with surprisingly good signal strength (O/549).

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

continued next page



CT3/DL1YMK EME DXPedition 4.1 m Dish

Digital DX Modes

Rex Moncur – VK7MO

Allan VK4EME at QG63kq, 135 km North of Brisbane is a new and active participant in the 144 MHz meteor scatter activity sessions. Allan uses a TS2000 transceiver running 80 watts to a 10 element DL6WU Yagi. Since May, he has worked VK2ZZF, VK2EAH, VK2AWD, VK2FZ, VK3HZ, VK3HY, VK3VHF, VK3II and VK7MO. On his better mornings, he has been completing four QSOs with stations down south in the one-hour session.

Nick, ZL1IU, is now operational on Digital Modes and has been attempting to work across to VK on meteor scatter. The distances are generally over 2000 km and thus one needs a very good take-off. Tests to date with VK4AFL, VK2FZ and VK4EME have resulted in one or two decodable pings an hour, well short of completing a QSO. It seems that it will require someone with a very good take-off and lots of patience to complete a QSO in normal conditions. However, Nick does provide an excellent opportunity to test out ideas on tropo-ducting extensions of meteor scatter as were discovered last summer with ZL3TY. It is suggested the stations in VK2 and VK4 monitor the Hepburn charts and whenever these indicate "yellow" for a few hundred km at either end of the path try some tests with Nick and see if we can improve our understanding of this dual mode of propagation.

Peter VK5ZPG reports on how meteor scatter can allow stations who are remote from concentrations of VHF activity to participate in VHF DX and then because of this activity are available for SSB contacts when the bands are open. Peter moved to Quorn near Port Augusta in 2002 after operating VHF/UHF from Willunga close to Adelaide. Following the move, contacts on VHF/UHF were nil except for a few sporadic E contacts on six metres around Christmas each year. He almost gave up on VHF/UHF until he noticed reports of meteor scatter in this column. Over the last 10 months, Peter has been an active participant in the weekend meteor scatter activity sessions and has completed 78 contacts on 2 metres using FSK441. As a result of this activity, he has maintained an active VHF station and completed 32 SSB contacts in the same period, as well as contacts on JT65. Peter says "I'd recommend MS to others in my position, located away from Adelaide (or any capital city) and normally missing out on VHF/UHF activity". Peter's experience is in line with my own where from Hobart, SSB openings to the mainland are so rare that there was almost no activity and stations dropped out of VHF DX. Through the use of Digital Modes, I can regularly work into VK3 on JT65 and to VK1/2/4/5 via meteor scatter on FSK441. As a result of being active, I am then aware of the rare DX openings that allow SSB contacts, enhancing this mode of activity as well. The message is that stations who are remote for the concentration of VHF activity on the East Coast of Australia but within meteor scatter range (1800 km) should consider this mode as an opportunity to participate in VHF DX in all its forms.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

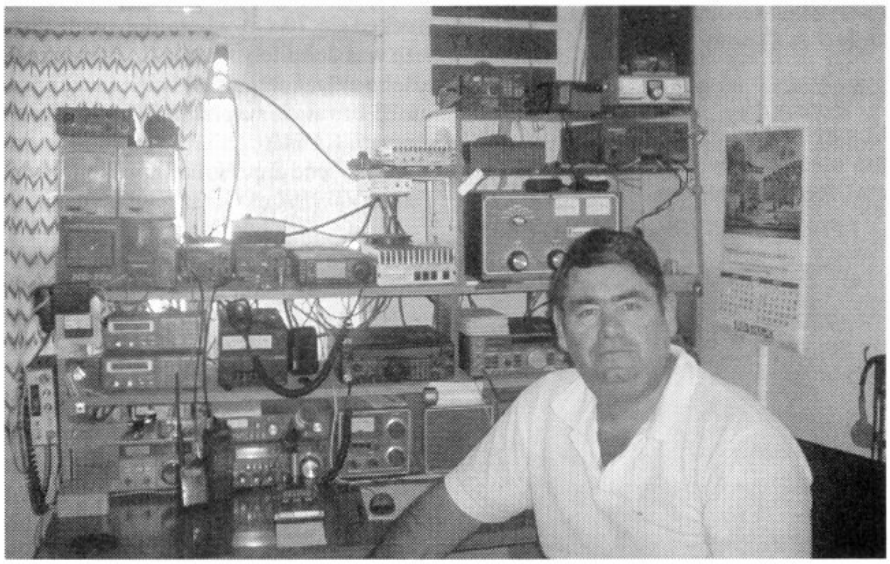
Brian Cleland – VK5UBC

June continued to produce some good sporadic E openings particularly in VK2, 3 & 5. Interstate beacons and/or TV signals were recorded on many days in these states but unfortunately not always accompanied by contacts.

A good opening occurred between VK1/2 and VK5 on the afternoon of the 11th June. Keith VK5AKM and Brian VK5UBC portable at Corny Point (PF85mc) worked several stations including VK2ZZY, VK1ZQR, VK2KRR, VK2PDW and VK2TG.

On the 29th June, Norm VK3DUT worked ZL3AAU and VK4FLR. Norm seems to have a permanent path to New Zealand. The same day Joe VK7JG reported the band open to VK4 but could not raise a station and Allan VK2ADB in the Snowy Mountains reported hearing the Townsville beacon.

With very little to report in mid-winter, I thought it would be interesting to look at the background and achievements of one of Australia's keen 6m DXers, John VK4FNQ.



John VK4FNQ

John was first licensed in 1979 and has operated with the following callsigns:-

11/08/1979 – 28/01/1982
VK8NGM Darwin

28/01/1982 – 6/04/1982
VK4NIE Muttaburra

22/09/1983 – 6/03/1984
VK4YLG Muttaburra

6/03/1984 – Today
VK4FNQ Charters Towers

John says:-

My first activity was on HF from Darwin, which was an excellent location for DX where I also used a Lafayette valve receiver on six, on which I heard many JAs.

In mid 1979, I purchased a Kenwood TS520-S as a novice and around the same time Kenwood advertised their complete station so I purchased the AT200, DG5, EXT VFO, SP520 and the TV506 transverter.

I put up a dipole to listen on 6 m in August 1983 and heard nothing for weeks. I remember one day hearing a lot of noise (I now know it was BYTV) and suspected the TV506 had failed. A few days later (31/10/83), I heard JA stations calling so I worked several. The first VK was Paul VK2YVG in Sydney on 01/11/83. The interest intensified from there and I built a 4-element Yagi and logged many QSOs in VK and JA.

I travelled around from 1984 to 1988 until settling in Townsville. I operated portable from many locations. I carried the 4 ele around and operated portable from Wonga Beach north of Cairns to Cloncurry and all points in between. I remember one night going to activate the Croydon shire on 80 metres and working a heap of JAs from the mobile on 6 m. (north of Richmond).

After settling down near Townsville, I built the 6-element Yagi from the ARRL Antenna Handbook and still use the design as my backup antenna. I have experimented with this antenna with good results and a 3-element quad that is tuned for 52 MHz repeater work. After moving to Charters Towers I built a 9-element Yagi on a 10 metre boom (VK4ABW design) which is up 19 metres. When mobile, I mostly use a ¼-wave whip.

Over the years I have used several Rigs including:-

Kenwood TS520-S + TV-506 Transverter
ICOM IC 505 + HL66-V amp
Kenwood TS 680-S + HL66-V amp
Yaesu FT847

For logging I used a paper log until 2000 in conjunction with a database so I could cross reference to the log books, and I am now using MixW and have transferred the database entries into MixW.

I have worked 138 countries on 6 m. One of the more memorable portable QSO's was VK0SJ on Macquarie Island (12 May 1986). I was located at Trinity Beach - a northern suburb of Cairns. Another was YC0UVO (19 Mar 1989) from the mobile near Hughenden. My most memorable European opening was on 29 October 2000 which lasted from 0641Z to 1011Z (operating time), in which I worked 90 stations including 4N, 9A, EH, EH8, I (55 worked), IG9, LZ, S5, UY, YO, YU and S3.

My log database has over 14000 entries on 6 m. Japan is by far the easiest worked with over 3300 QSO's in the log. I have around 400 JCC's and 200 JCG's confirmed from Japan on 6 m. The log also includes around 500 QSO's into Italy.

I considered the best years were 1989 - 1992 with 1320 QSO's logged (including approx 534 JA and 213 VK) and 1999 - 2002 with 4823 QSOs logged (including approx 1400 JA and 900 VK).

My advice to newcomers to 6 m is to program beacons and some out-of-band indicators into a scanner to give an idea when the band is open. Although the band will appear to be dead, it will produce propagation at surprising times. I use an Icom IC505 with a 6-element Yagi in scan mode 24 hours, 7 days a week and even in the depths of winter will produce some QSOs.

John is meticulous in his logging and logs all contacts plus beacons and stations heard. Although he has had many international 6 m contacts and worked many countries, John still enjoys a chat during the Australian sporadic E openings. When the band is open to Northern Queensland, he can normally be found on 50.190 MHz.

Please remember to send any 6 m information to Brian VK5UBC at bcleland@picknowl.com.au.

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What would you have said?

Jinkin (Jay) Frame

Quietly sitting drinking a welcome cup of coffee after a most interesting talk on Antenna tuners – yes it was the monthly meeting of the DXCC, I saw Alan heading my way. I thought now what will he be asking me this month!

Sure enough - straight to the point - "Jay do you QSL?" "Well, yes I do." "Ah" said Alan, "but do you QSL every contact or only QSL for cards received?"

"Before I answer that Alan, what has prompted the question?"

"Well, I have now been licensed for 12 months and have, as I said I would, QSL every QSO that I have had – but the return has been very disappointing. Every contact I have had said that they would QSL via the bureau, and I would have thought that in 12 months I should by now have received at least one QSL?"

"Well I am afraid that it is a fact of life that quite a number of amateurs do say that they will QSL but have intention of doing so – don't ask me why because I do not know. Probably the worst example of this is where they ask for QSL's direct only, and then never reply."

"At the other extreme there are the amateurs who do QSL absolutely every QSO without fail. So going back to the bureau, just be patient - you may be pleasantly surprised in a month or two."

"Basically DXpeditions are excellent for confirming contacts – amateurs go on a DXpedition for the sole purpose of making as many QSOs as possible AND confirming them. The usual procedure is either direct – with a self addressed envelope and funds to cover return postage – or via the bureau – or if you are really only interested in getting your ARRL DXCC country total confirmed as high as possible then there is LOTW. More and more stations are putting their QSO data there."

"Going back to your original question – do I QSL – the answer is yes for every contact - via the bureau. If I want a particular card then I will QSL direct to make sure I get it for occasionally cards do get lost in the Bureau (and for that matter in the post!)"

"So the policy is up to you - if you say you will QSL then do so."

What would you have said?

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Beyond our shores

David A. Pilley VK2AYD

Spain:

Restructuring

New Amateur Radio regulations became effective in Spain back on June 10. The new licensing regime essentially eliminates the former Novice, General and Restricted licence classes and extends the same privileges to all radio amateurs. URE, Spain's IARU member-society, says the change means EB and EC prefix call signs will be showing up on all bands now, in addition to the familiar EA prefix.

(ARNewsline)

Netherlands:

Restructuring

In the Netherlands, IARU member-society VERON reports that as of June 10, radio amateurs in the Netherlands are using the band 7.100-7.200 MHz on a secondary basis with a maximum power output of 250 watts.

(ARNewsline)

Japan:

Technology Trivea:

The Hard Drive Turns 50

You may find it hard to believe, but the computer hard drive will turn 50 on September 13th.

According to Hitachi, the first Hard Drive was called the RAMAC and designed for use in the IBM System 305 Computer. It required fifty 24-inch diameter platters coated with iron oxide paint mounted on a rotating spindle to store only 5 megabytes of data.

Now, compare that to the current desktop PC drives that are available with a capacity of up to 800 megabytes and terabyte size drives for home PC are rumoured to be not far away.

(ARNewsline)

Germany:

More Trivia

Soccer, FIFA and RFID

Every ticket holder of 2006 FIFA World Cup Soccer games is carrying an RFID or Radio Frequency Identification Tag. These tags are scanned whenever a fan arrives at the gates of any of the 12 stadiums across Germany.

Philips Corporation supplied the RFID tags, the track-and-trace chip tags. They are to combat counterfeiting and ensure only those with legitimate tickets can get in to watch the matches.

(ARNewsline)

Radio Aids:

New Google mapping improvement

Most radio amateurs who have computers and access to the internet have downloaded Google-Earth and taken an aerial view of their QTH. Google have released the latest upgrade to the mapping tools that should have a big interest to those that are Grid Square hunters. The improvements include a major expansion of the satellite imagery included in Google's three-dimensional software for touring Earth.

The Mountain View based company says four times more land will be covered in the latest version of its free Google-Earth software. This will enable about one-third of the world's population to obtain an aerial view of their homes and neighbourhood and maybe even antennas as well.

(ARNewsline)

UK:

Pat Hawker G3VA honoured by the Queen

Many of the older hams that read this column will know Pat Hawker, if not in person, from his written words. Pat Hawker G3VA, has written the column "Technical Topics" in the RSGB Journal for almost 50 years. Now G3VA has been named as Member of the British Empire in the United Kingdom's recent Queen's Birthday Honours List.

Pat has had an illustrious career. After World War II, G3VA became an assistant to the General Secretary of the RSGB. A few years later, he was editing the *Radio and Television Service, Radio and Television Engineer's Reference Book*, while laying the foundations of a technical career with the Independent Broadcasting Authority. He later became the writer of "Technical Topics", for which he is still world-renowned and the most read column in "RadCom". His column was so well read that it has been re-produced in four excellent books. The latest, covering the years 1990-1994, known as "Technical Topics Scrapbook" and is available from the WIA Bookshop. No shack should be without one.

World:

More trivia

A new IRC

The Universal Postal Union (UPU) has announced that a new International Reply Coupon (IRC) design http://www.dailydx.com/2007irc.jpg has been selected. Radio amateurs often enclose IRCs when QSLing DX stations directly to cover the cost of return postage. Volodymyr Taran, a graphic artist from Ukraine, submitted the new design, known as "Beijing Model No. 2". Chosen by a jury of 40 UPU member countries, the coupon design was inspired by Michelangelo's painting on the ceiling of the Sistine Chapel – two fingers about to touch framed in a postage stamp, representing the notions of communication and exchange. The new IRC will be valid until December 31, 2009. The current IRC is valid to December 31, 2006.

(ARRL N/L)

World Radiosport Team Championship 2005

Canadian team takes WRTC-2006 Gold - "Phantom QSOs" Mystery Clouds Event

Canadians John Sluymer VE3EJ and Jim Roberts VE7ZO (ex-VE3IY) officially topped the 46-team field at World Radiosport Team Championship 2006 (WRTC-2006) in Brazil http://www.wrtc2006.org July 8-9.

As PT5M they logged nearly 2.44 million points to take home the gold. US teams took the second and third positions for silver and bronze medals, respectively. But the appearance in one log of a large number of what officials are calling "phantom QSOs" took another team out of medal contention.

Earning the silver medal was the US-West team of Californians Dan Craig N6MJ and Dave Mueller N2NL, with nearly 2.32 million points from PW5C.

The national special invited team of Doug Grant K1DG and Andy Blank N2NT – operating as PT5Y – landed in third place with almost 2.1 million points. They had been in fourth place in the preliminary "Scoreboard" results as the event ended at July 9 at 1200 UTC. The final five changed, however, once WRTC-2006 officials reviewed all logs.

Preliminary Scoreboard numbers had the Serbia-Montenegro team of Ranko Boca YT6A and Djurica Maletin YT6T – operating as PT5L – scrambling from 11th to third place in the final hour of the event. When the smoke cleared, however, they ended in 11th place.

In a statement http://www.wrtc2006.com/release59.html July 14, WRTC-2006 officials explained that the PT5L log contained an unusually high number of "uniques" – call signs that appeared rarely or not at all in the logs of more than 1000 IARU contest participants or of other WRTC-2006 competitors. The officials said recorded audio from PT5L confirmed that the QSOs had in fact taken place.

"It appeared to the judges, from listening to the recording while examining annotated log extracts identifying the 'uniques,' that there was a small number of stations, probably more than one, feeding 'phantom QSOs' to PT5L," the WRTC-2006 statement said.

Signing the statement in addition to Atilano de Oms PY5EG, as WRTC-2006 steering committee chair, were judges David Sumner K1ZZ and Roger Western G3SXW, and Log-Checking Committee members Larry "Tree" Tyree N6TR and Phil Goetz N6ZZ.

As a result, the judges and log-checking committee decided to reduce the threshold for determining a unique QSO to a relatively small number of logs and to delete all uniques from the logs of all 46 competing teams.

While most teams lost about 15 QSOs, the action resulted in the deletion of 240 contacts – nearly all "manufactured" at the other end – from the PT5L log and the loss of the bronze medal.

The five WRTC-2006 officials said it appears most likely that the "phantom QSOs" were intended to sabotage either one or both of the PT5L operators specifically or a randomly selected WRTC station.

"Such behaviour, by amateur operators outside the WRTC event itself, is both reprehensible and illegal and deserves to be thoroughly investigated," the officials said. "However, doing so within the time frame of the WRTC event was impossible."

Taking the fourth spot with some 2.02 million points was the Ukrainian team of Yuri Onipko UT4UZ and Dimitry Stashuk UT5UGR, who competed as PW5X. They had showed up in fifth place in the preliminary standings. Rounding out the top five was the PT5D team of Stefano Brioschi IK2QEI and Stefano Galli IK2JUB, of Italy. They racked up nearly 1.99 million points.

These special awards were also presented: PW5U (XE1KK/XE1NTT) for the most CW QSO points among stations with at least 35 percent SSB QSOs; PT5N (9A8A/9A5K) for the most SSB QSO points; PW5K (ES5TV/ES2RR) for the most accurate log among the top 20 finisher, and PW5G (IZ3EYZ/9A1UN) for the top score among Bi-National Young Team participants.

WRTC-2006 selected 47 teams to take part, but only 46 competed because the Czech Republic team of OK1FUA and OK2RZ was unable to get to Brazil because of an airline service suspension. Citing other commitments, three-time WRTC winners Dan Street K1TO and Jeff Steinman N5TJ did not participate in this year's event in Brazil.

(ARRL N/L July 14/06)

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Sharpen up your contesting skills, there are some big local contests coming

Remembrance Day	**12-13 August.**	**Let's get a record log list**
ALARA	**26 August.**	**Ladies' choice**
Westlakes Cup	**23 September**	**New contest, ideal Foundation starter**
RAOTC 30th Anniversary	**21 October**	**Open all ages**

Hamads *classifieds* FREE

FOR SALE NSW

Two Philips FM900, one converted, one as rec'd, pair $175. Outback OBS8 split antenna with heavy duty spring mount $275. Mobile One 2m/70cm Hamtenna, one new $15, one s/h $5. Cliff VK2CJL 02 6972 3788

ICOM 751A HF transceiver $1500. Kenwood PS30 13.8V 20A DC power supply o/v protect $225. Yaesu FT 227R transceiver $125. ICOM AH2 all band ATU $425. Spirit Viper 33,600 bps tel/fax modem $115. All with manuals, all VGC, all ONO. Art Stowar VK2AS 02 0072 3540

Broadcast and Satellite Equipment. We are selling all the following equipment plus many other small items. 3.8m satellite dish $150. 2.4m satellite dish $25 Dual polarity Low noise amps [Ku and C band] $30. Feed horns Ku from $35. Satellite Receivers From $25. Tandberg satellite Rx. $550. VHF/UHF linear Amps From $50. CATV – MATV mods. Channel Amp $25. Bmac Encoder/Decoders $50 ea. Spectrum Analyser [AVCOM] 10MHz-4Ghz $350. SSB HF 100W Trans. Rx. $250. PS for above [25A] $250. Satellite Phone Inmarsat mini M $250. Satellite Phone Inmarsat B [64k] $450 ICOM HF Rx. R71A $250. TV Field Store FORTEL $50. TELETEX decoder $50. TV translator Ch 6 to Ch 12 25 watt $10. AM radio transmitter 400W solid state 1.4 MHz $2000. 27 MHz direction finder [accurate] $100. MPEG 2 Encoder/MUX/Encoder MCPC offers. RF output transistors and parts etc offers. UHF CB Yagi $75. Many other cables and parts. Please ask for John 0428 287 930 02 9652 1269 Location Glenorie NSW VK2YTX

FOR SALE VIC

Free: Old AWA 10 W FM mobile service base station, complete except for crystals. Unlikely to be suitable for on-air conversion, but has a multitude of good parts. Free to the first person able to collect. Bill Adams VK3ZWO ph 03 9598 6304.

Receiver BC-348R., original condition, no mods and own dynamotor $360. BC224D, the 12 V version of the BC-348. This one a bit rare as it omits the 200 - 500 kHz band and made by RCA. Original condx with own dynamotor $390. Plug PL-P103 for the rear connector of the BC-348 new in box $50. HF transceiver ARC-38 (not xtallised version) and ARC-38A. Each of these xcvrs have their own dynamotor, control box. $220 for each. Control box 313V-1 , mounting rack and cable for the HF transceiver 618 T $160. VHF receiver aircraft band R 502 made by ARC complete with tuning cable, control head and dynamotor $160. VHF aircraft transceiver Marconi TR1934 complete with plugs and control box $60. 2 only BC- 1206 range receivers... $60 each. AN-ARC 49 VHF tx/rx combination -no control box /dynamotors 2 available $50. Hewlett Packard #5061A caesium Beam Frequency standard. This instrument is faulty in that the caesium resonator is probably U/S.The internals and xtal standards are operable as is the Patek Phillipe timer clock -- best offers for each. 3 available. All items do not include freight. Reply to Pete Williams VK3IZ 03 5156 2053 or jupete@bigpond.net.au

WANTED VIC

Service/maintenance manual for Wavetek model FG5000A function generator. All copy costs refunded. Drew VK3XU ph 03 9722 1620 or QTHR.

Parts for military radio: I am looking for the parts to restore and complete my AN/TRC24 radio system. I am looking for the following:- Transmitter, T-302/TRC power supply, PP-685/TRC. Receiver, R-417/TRC. "A" Band tuner, AM-1180/GRC. amplifier/converter, AM-2537/TRA-25. And any other bits and pieces or books/manuals for this radio. John Eggington, VK3EGG. Email johne@telpacific.com.au Mobile 0409 234 672, Ph 03 9819 9065

FOR SALE QLD

Two (2) solid state HF wide band linear amps. 100 watt, in good cond'n and in going order. VK4DV QTHR or email vk4dv@yahoo.com.au

Super QTH. VK4UA views over Gold Coast 1 acre elevated. Near new Nally 3 section winch tower to 75 feet with 3B,6el HF beams tilt over. Luxury 4BR BV, 2 big car garage 320m. 2 of 9x6 metal sheds, own water and sewer $690K or with extra 7.4 acres (31 prestige blocks) $2.8M OBO. Now for the gear. HAL/CRFR SR150 5B 100W transceiver $180, PSU $70, Star 700A RX 10B $140, Heathkit HX20TX 60W 5B $90, BC348J with selectable 85kC 2nd IF $190 PSU $50 Diawa 700A rotator and control $200. XTAL 9 MHz filter in can with three Xtals $40 , valves metal and minature 25¢ each many parts 100s of magazines free. All items SSB with handbooks at Pimpama 07 5546 7041

WANTED QLD

Emtron DX-1 linear amp in good condition and no mods. Model with the meters preferable. VK4DV QTHR email vk4dv @yahoo.com.au

FOR SALE SA

Large variety of new TV valves. Any offers. Lorraine VK5LM 08 8527 2151.

VK5JST Antenna Analyser kits. [see AR article May 2006] For details see www.scarc.org.au For mail SCARC PO Box 333 Morphett Vale SA 5162, or email: kits@scarc.org.au

WANTED SA

De-soldering station in good working condition. VK5ZE QTHR, phone 08 8255 7586

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- Submit by **email (preferred)** or on the **form on the reverse of your current Amateur Radio address flysheet.** Please print carefully and clearly, use upper AND lower case.
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- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact Newsletters Unlimited.
- Copy typed or printed clearly please, and received by the deadlines shown on page 1 of each issue of Amateur Radio.

Email: ***newunltd@bigpond.net.au***

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All advertisers are advised that advertisements containing only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

THE WIA QSL COLLECTION REQUIRES QSLS

All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

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The Wireless Institute of Australia represents the interests of all amateurs throughout Australia.

The WIA offers one year and 5 year membership for all categories except Concession Student. The fees for each category are:
Full members $75 ($365), Overseas members $85 ($403), Concession members (pensioner) $70 ($332),
Concession members (student) $70, Full members no magazine $50 ($237), Family members $40 ($190)

National Office	Contact	News Bulletin Schedule
10/229 Balaclava Road, Caulfield North VIC 3161, PO Box 2175 Caulfield Junction Vic 3161 Australia	Phone 03 9528 5962, Fax 03 9523 8191, 10am to 4pm daily, nationaloffice@wia.org.au http://www.wia.org.au	Subject to change. See www.wia.org.au follow National News prompts. Contact nationalnews@wia.org.au National VK1WIA news is distributed to all states.

Advisory Committees	Contact	News Bulletin Schedule
VK1 Australian Capital Territory VK1WX Alan Hawes VK1ZPL Phil Longworth VK1ET John Woolner VK1GH Gil Hughes	vk1advisory@wia.org.au	Sundays at 11.00 am VK1WIA 7.128, 146.950,438.050 Canberra Region Amateur Radio Club Email newsletter will be sent on request to president@vk1.ampr.org
VK2 New South Wales VK2QV Chris Flak VK2XCD Chris Devery VK2BFN Adrian Clout	Phone 02 9689 2417 vk2wi@ozemail.com.au vk2advisory@wia.org.au	VK2WI - Sunday 1000 and 1930 hours local.1.845; 3.595; 7.146; 10.125; 14.170; 28.320, 52.525; 145.600; 147.000; 438.525; 1273.500 megahertz. Plus regional relays. VK1WIA news included in the morning
VK3 Victoria VK3JJB John Brown VK3PC Jim Linton VK3APO Peter Mill	Phone 03 9885 9261 arv@amateurradio.com.au	VK1WIA, Sunday 11am and 8pm, 3.615 and 7.085 (LSB), 10.130 (USB), VK3RML 146.700, VK3RMM 147.250, VK3RMU 438.075.
VK4 Queensland VK4BY Don Wilchefski VK4ZZ Gavin Reibelt VK4KF Ken Fuller	vk4advisory@wia.org.au	VK1WIA, Sunday 9.0am via HF and major VHF/UHF rptrs
VK5 South Australia and Northern Territory VK5OV David Box VK5APR Peter Reichelt VK5ATQ Trevor Quick	Phone 08 8294 2992 boxesdnm@lm.net.au peter.reichelt@bigpond.com vk5advisory@wia.org.au	**VK5 South Australia** VK5WI: 0900 am local time. 1.843 LSB, 3.550 LSB, 7.095 LSB, 28.470 USB, 53.1 AM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 439.975 FM Adelaide North. **VK8 Northern Territory** 0900 local time 3.555 LSB, 7.050 LSB, 10.130 USB, 146.900 FM.
VK6 Western Australia VK6NE Neil Penfold VK6XV Roy Watkins VK6OO Bruce Hedland-Thomas	Phone 08 9351 8873 http://www.vk6.net/ vk6advisory@wia.org.au vk6ne@upnaway.com vk6xv@bigpond.net.au	VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz, Country relays 3.582, 147.200 (R) Cataby, 147.350 (R) Busselton, 146.900 (R) Mt William (Bunbury).147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900,147.000, 147.200, 147.250 and 147.350 MHz..Also in "Realaudio" format from the VK6 WIA website
VK7 Tasmania VK7ZAX Phil Corby VK7DG Dale Barnes VK7KK Reg Emmett	Phone 03 6234 3553 vk7advisory@wia.org.au phil.corby@tassie.net.au vk7dg@wia.org.au regemm@ozemail.com.au	VK1WIA Sunday 9am on VK7WI network: 3.570MHz LSB, 146.700 MHz FM (VK7RHT South), 53.825MHZ FM (VK7RAD South), 147.000MHz FM (VK7RAA North), 146.750 FM & 53.825MHz (VK7RNW North West), 146.625 MHz FM (VK7RMD North West), UHF CB Channel 15 (Hobart) and 27MHz CB - 27.225MHz LSB (Hobart). Followed at 9:30am with VK7 Regional News Broadcast also on 7.090MHz LSB & 14.130MHz USB

Notes

1. Only three members of the state advisory committees are listed.
2. All listings are preliminary. They will be updated each month as required.
3. Membership application forms are available from the WIA web site www.wia.org.au or the national office address above.

MARCONI CENTENARY *Celebration*

The Centenary of the first overseas wireless transmission from the Australian mainland – July 12th 1906

From Devonport

What a day it was! July 12th 2006, 100 years since Marconi's wireless conquered Bass Strait and made the first wireless crossing of open water in the Southern Hemisphere and we celebrated with our Geelong friends a wonderful century of electronic progress.

The day started at 4.20 am to open the Devonport Maritime Museum for the ABC morning presenters, who did a fantastic job featuring Amateur Radio and the Marconi celebrations from 5.30 am to 7.45 am.

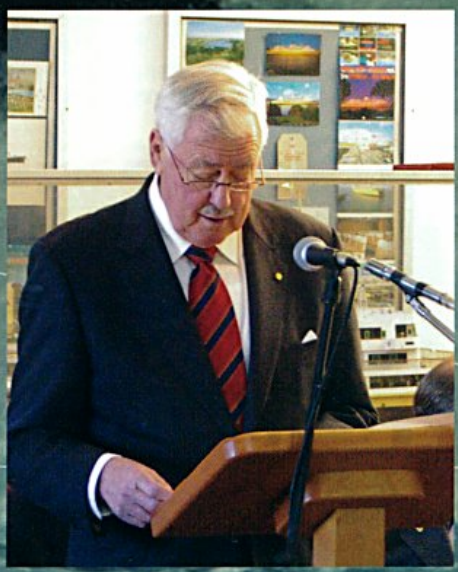
Our State Governor, His Excellency the Hon. William Cox (pictured below) arrived and we awaited the call from Victoria starting the exchange of messages. Both Governors spoke, then the parliamentarians present talked to each other, Victoria sending greetings to their little neighbour and Tasmania responding reminding them that Tasmanians founded Melbourne.

In a chat with Peter Turrell, the chairman of the Marconi Veterans Association in Chelmford, England, he mentioned that Princess Elettra Marconi, the daughter of Guglielmo Marconi, was in England for the Ascot Races.

A phone call to Italy and we had a scoop! A 3-minute message in which she intimated that if she had known she would have come out to be with us. We had not known that she was still alive!

(See full report and transcript of Princess Elettra Marconi's recorded speech inside)

Across Bass Strait to Point Lonsdale
(Inside front cover)



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HF/VHF/UHF All mode Transceiver • 100W HF/50MHz, 50W/2m, 35W/70cm • I.F DSP for improved noise rejection • Digital IF filter for Dial up selectivity • 2.5" TFT colour display for bright easy reading • Remote control DTMF Mic for fingertip control & IRLP access PLUS • digital voice storage • 2 mode band scope • Multi function meter 7 SWR display • Built in RTTY modulator

IC-756PRO III

HF*6m • Sharp & soft IF filter shape • New receiver gives +30dBm third-order intercept point • One-touch record/play • Digital voice memory • Extended 1/4 Tuning step & BPF functions for SSB-D mode • 32-bit floating-point DSP and 24-bit AD/DA converter • SSB/CW sychronous tuning • 5-inch color TFT LCD • Built-in antenna tuner • Customisable filter shap • No optional filters to buy

Amateur

IC-7800

HF*6m • Four 32-bit floating point DSP units • +40dBm ultra high intercept point • Automatic tracking pre-selector • Two completely independent receiver circuits • 200W output power at full duty • Ultra high frequency stability • 7-inch wide color TFT LCD • Multi function spectrum scope • RTTY / PSK31 operation without PC connection • Professional 6m receiver • Digital Voice Recorder • CF memory card.

IC-2200H

• VHHigh (65W) Power Output • DTCS & CTCSS Tone Squelch • DTMF Encode & Decode (with optional UT108) • Digital Voice & Data Communication (with optional UT118 • 207 Alphanumeric Memories

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VHF/UHF (2m/70cm) Dual-band FM Handheld Transceiver • Ultra compact body, light weight 47x81x28mm, 160g • Mini-power VHF/UHF dual bander with wideband receiver 0.495-999.990MHz • 1800mAh large capacity Li-Ion battery allows 20hours operating time (Tx:Rx:Standby=5:5:90) • 1.5W output power on 2m & 1W output power on 70cm • Simple operation • 1000 memory channels with flexible memory bank system • Oversize LCD for clear display of function information

IC-T90A

A new 5W Triband handheld • VHF/UHF FM 2M, 6M, & 70CM Wideband receive 495KHz - 1GHz 555 Alphanumeric memories • 13 Scan modes DTCS & CTCSS encode & decode DTMF encoder (10 memories) Wide/narrow transmit capability.

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